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## DEMOGRAPHIC MONITORING OF PENSTEMON LEMHIENSIS IN SOUTHWEST MONTANA

### FINAL REPORT

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## I. INTRODUCTION

This report summarizes the final two years of monitoring results from six years of U.S. Forest Service demographic monitoring studies and four years of Bureau of Land Management demographic monitoring studies in populations of Lemhi penstemon (Penstemon lemhiensis). Demographic monitoring serves as a biological baseline that helps to identify critical life history stages (Schemske et al. 1994). It may also assist in identifying trends and management response questions.

Penstemon lemhiensis is a sensitive plant species that occurs in southwest Montana on the Beaverhead, Bitterroot and Deerlodge National Forests, and on the Dillon and Headwaters Resource Areas of the U.S. Bureau of Land Management. Three permanent transects were established in 1989 on the Beaverhead National Forest, and two permanent transects were established in 1991 on the Dillon Resource Area in two separate studies with parallel objectives. The Beaverhead National Forest monitoring results from 1989 through 1992 are discussed in earlier reports (Shelly 1990, Achuff and Shelly 1991, Shelly and Achuff 1992, Shelly and Heidel 1993), and the Dillon District monitoring results from 1991 and 1992 are discussed in earlier reports (Achuff 1992, Heidel and Shelly 1993). This final report pools and analyzes the last two years (1993, 1994) of demographic monitoring data with all earlier data from both monitoring studies.

## II. SPECIES INFORMATION

### A. REVIEW OF PRESENT STATUS

1. **FEDERAL STATUS:** Penstemon lemhiensis was designated as a Category 2 candidate for federal listing by the U.S. Fish and Wildlife Service (U.S. Department of Interior 1993). Category 2 taxa were defined as those "for which there is some evidence of vulnerability, but for which there are not enough data to support listing proposals at this time." Effective September, 1995, however, the USFWS has discontinued formal designation of Category 2 candidates. Species with conservation concerns will continue to be recognized informally by the USFWS as "plant species at risk," but a listing of these taxa will no longer appear in the Federal Register.

Penstemon lemhiensis is currently on the U.S. Forest Service Region 1 sensitive species list (U.S. Department of Agriculture 1994). Sensitive species are "plant and animal species identified by the Regional Forester for which population viability is a concern, as evidenced by: a.) significant current or predicted downward trends in population numbers or density, and/or b.) significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution" (U.S. Forest Service Manual, Ch. 2670).

Penstemon lemhiensis is also on the Bureau of Land Management list of sensitive species for Montana (D. Heinze pers. commun.).

2. **GLOBAL AND STATE STATUS:** With respect to its rangewide status, Penstemon lemhiensis is currently ranked G3 ("vulnerable because of rarity or found in a restricted range") by The Nature Conservancy. In Montana, it is currently ranked as S2 ("imperiled in the state because of rarity, or because of other factors demonstrably making it very vulnerable to extirpation") by the Montana Natural Heritage Program (Heidel 1995). This is usually reserved for plant species known from 6-20 occurrences. However, this species has been observed to be declining in many of its largest

populations, a portion of the occurrences are "D-ranked" occurrences thought to represent spurious colonization in disturbance settings, and it is thought that most or all occurrences may be interdependent in some form as small sets of "metapopulations."

It has also been informally designated as a "threatened" species in Montana (Lesica and Shelly 1991); a "threatened" species is defined therein as one that is "likely to become endangered throughout all or a significant part of its range in Montana in the foreseeable future. Specific threats to known populations of these plants have been identified."

These state and global rankings do not provide any legal protection for P. lemhiensis.

## B. UPDATE OF GEOGRAPHICAL DISTRIBUTION IN MONTANA

Penstemon lemhiensis is a regional endemic known to occur in Beaverhead, Deer Lodge, Ravalli, and Silver Bow counties in Montana; plus Lemhi County in Idaho. Twenty-five new populations of the species were discovered in Montana during 1993-1995; the majority are on Bitterroot National Forest. The total number of known element occurrences in the state is now 77. As mentioned above, population numbers for this species are not static. Among the occurrence records are revisited ones which have waned or died out, and ones which have not been revisited. All new, pre-existing or modified Montana occurrences of Penstemon lemhiensis are presented in Appendix B.

## C. POPULATION DEMOGRAPHY

The three permanent monitoring transects established on Beaverhead National Forest lands in 1989 were re-read on 28-29 July 1993 and 15-16 August 1994, using the methods described in a previous report (Shelly 1990). The two permanent monitoring transects established on the Dillon District of the Bureau of Land Management in 1991 were re-read on 29 July 1993 and 16 August 1994 using the methods described in a previous report (Achuff 1992), with an additional late visit in the 1993 field season to determine fruit production. A system of tracking marked plants had previously been established in 1990 at one of the BLM sites, and was also re-read at these times. The population and fecundity data for 1989-1994 (USFS) and 1991-1994 (BLM) are summarized in Table 1. The numbers of individual plants in seedling, fruiting and non-fruiting stages in each transect over the monitoring periods are displayed in Figures 1-5.

### 1. U.S. FOREST SERVICE TRANSECTS

**1993:** Increases in the number of plants as compared to 1992 occurred in all three study transects in 1993; the total number of plants in all three transects was 166. This total reflects the first increase in the number of plants encountered during the study, which had otherwise declined from 240 total plants in 1989, 215 in 1990, and 115 in 1991, to 78 in 1992. The increase in the total number of plants observed in 1993 compared to 1992 was +113%.

The total number of plants in the French Creek - Park Mine transect increased by 14 (+78%) from the 1992 total; this is the first increase that has been observed in this transect during the course of the study. For the first time since 1990, there were fruiting plants present in the transect; these were very fecund, as well, producing an average of 83 fruits per plant (Figure 6). In addition, a flush of seedlings appeared in 1993 (Figure 7) while the total number of mature individuals remained stable (Figure 8). These responses

undoubtedly reflect the cool, moist spring and summer of that year, in contrast to the typically dry years that occurred through 1992. Monthly growing season precipitation totals are depicted for the nearest monitoring station at Dillon between 1987-1992 (1993 data unavailable; Appendix C), and for other surrounding communities between 1987-1994 (Appendix D-G; Butte, Darby, Jackson and Wisdom). The latter show a net growing season precipitation increase in 1993 of app. 15-45% relative to the average with exceptionally high rainfall in June during peak vegetative growth of the species. Monthly maximum monthly growing season temperatures were consistently low in 1993 compared to other years (Appendix H. 1987-1993 Mean maximum temperatures in Darby; Appendix I. 1987-1993 Mean maximum temperatures in Wisdom).

The French Creek - Discovery Mine transect also showed an increase in 1993. The total number of plants increased by 18 (+40%; Figure 8). Unlike the other two transects, however, no fruits were observed at the Discovery Mine transect this year (Figure 6), because all of the plants were browsed (Figure 9). Survival of seedlings that appeared in 1992 was high (Figure 10). As theorized earlier, a possible reason for the survival of these seedlings, in addition to the appearance of 25 new plants this year, may be that this transect lies along a small draw, which probably provides for increased moisture and protection during drier conditions. This may also partially explain why the numbers of plants sampled in this transect have remained much more stable over the last four years than in either of the other Forest Service transects (Shelly and Heidel 1993).

The total number of plants sampled in 1993 in the Badger Pass North transect showed by far the greatest increase compared to 1992 levels of any of the transects. This increase is accounted for by an exceptional flush of seedlings that appeared (Figure 7), again likely a reflection of the cool, moist conditions in 1993; 67 seedlings or new plants were observed. The decline in established plants continued, however; six of the 19 established plants present in 1992 perished in 1993. The net increase for this transect in 1993 was a remarkable +295%. As in the French Creek - Park Mine transect, two plants flowered, in this case for the first time since 1991; however, these two plants produced an average of only 24 fruits each (Figure 6).

As in the past, no evidence of severe surface or vegetation disturbance was noted at any study site in 1993.

**1994:** Increases in the number of plants as compared to 1993 occurred in just one of the three transects in 1994; the total number of plants in all three transects was 104. This total reflects a drastic decrease from the previous year, although it is still greater than the lowest number observed (78 plants in 1992); most of this decrease was accounted for by the loss of nearly all of the seedlings that appeared in 1993 at the Badger Pass North transect (Figure 9). The decrease in the total number of plants observed in 1994 was - 37% compared to 1993. This overall decrease is undoubtedly a reflection of the return of very hot, dry weather during 1994.

The total number of plants in the French Creek - Park Mine transect increased by eight (+25%) from the 1993 total. This was a result of ten of the 16 seedlings that appeared in 1993 surviving (while two established plants perished). Fruiting, albeit of only two plants, also occurred again in 1994, with an average of 53 fruits per plant. As in 1993, a flush of seedlings appeared again in 1994. These responses are interesting considering that 1994 was once again a very hot, dry season; there may have been a "carry-over effect" from the cool, moist season in 1993 that resulted in increased survival, as well as another flush of seedlings.

For the first time since 1991, the French Creek - Discovery Mine transect showed a decrease in the total number of plants from the previous year, from 59 to 57; this represented a very minor decline, however, of only -3.4% (Figure 2). Thirteen of the 25 seedlings or new plants that appeared in 1993 survived in 1994, but a smaller number of seedlings appeared in 1994 as compared to 1993 (16 and 25, respectively). Unlike 1993, there was a fruiting plant present in 1994, which produced 19 fruits.

After a remarkable flush of seedlings appeared in 1993, the Badger Pass North transect saw a drastic decline in 1994, as nearly the entire 1993 seedling class was lost (64 out of 67 plants; Figure 9). In addition, four of the eight established plants perished, resulting in a -91% decrease in the total number of plants as compared to 1993. These losses are again most likely a result of the return of hot, dry climatic conditions in 1994. One plant did flower in this transect in 1994, but no fruits were produced. With the exception of a prolific seedling flush in 1993, Badger Pass North has shown the least resilience of the three Forest Service transect populations to recover from the prevailing drought conditions over the course of the six-year study. The reasons for this are not transparent since, as in past years, there was no evidence of heavy grazing or other severe disturbance at this site.

The existence of viable seedbanks is verified, as revealed by the presence of seedlings, sometimes abundantly, following years of no flowering and fruiting; this occurred at Badger Pass North in 1993, Discovery Mine in 1992 and 1994, and Park Mine in 1992 and 1993. The long-term viability of these seedbanks remains unknown, and is a missing link in reconstructing the matrix transition model for the species.

**1995:** The Badger Pass North transect was reread in conjunction with new management response research to evaluate the effectiveness of prescribed burning treatments on-site. All of the seedlings that established in 1993 had died by 1995. Survivorship among the plants present in 1989 was 5% in 1995.

## 2. BUREAU OF LAND MANAGEMENT TRANSECTS

**1993:** The total number of plants increased in one of the two transect sites, at the Badger Pass Microwave site. Its numbers totalled 53 with the addition of 15 seedlings (140% increase), accompanied by a stable number of mature plants. These were the only seedlings to appear at the Microwave transect during the four years of monitoring. The total number of plants in the Horse Prairie transect declined to 64% of its previous numbers despite a major increase in the number of fruiting to non-fruiting plants in the previous growing season. It had only 3 seedlings.

While the number of Badger Pass Microwave fruiting plants remained steady in 1993, there were no fruits produced because of high levels of browse in the exclosure. The Horse Prairie fruiting plant numbers skyrocketed (Figure 11), resulting in fair fruit production (Figure 6) in spite of browse (Figure 9). The synchrony in fruit production supports the hypothesis that the population was recently established as a single cohort in its disturbance setting, a synchronized one-time establishment event and short-duration seed source compared to the population sites in natural settings.

These responses are likely to reflect the cool, moist spring and summer of that year, in contrast to the typically dry years that occurred through 1992 (discussed above). Monthly growing season precipitation totals are depicted for the nearest monitoring station at Dillon between 1987-1992 (1993 data unavailable; Appendix C), and for other surrounding communities between 1987-1994 (Appendix D-G; Butte, Darby, Jackson and

Wisdom). The latter show a net growing season precipitation increase in 1993 of app. 15-45% relative to the average.

**1994:** The Microwave mature plant numbers increased slightly with 2 additional plants for a total of 40 (105% increase; Figure 8). The Horse Prairie mature plant numbers dropped further with loss of 13 plants for a total of 10 plants (43% decrease). No seedlings were produced this year at either site (Figure 7). Seedling survival from the previous year was low at the Microwave site, and there was no survival at Horse Prairie (Figure 10).

**1995:** The Badger Pass Microwave transect was reread in conjunction with new management response research to evaluate the response to prescribed burn treatments on-site. The population structure remained stable, and the previously high levels of browse almost disappeared.

### III. ASSESSMENT AND CONCLUSIONS

**Overall transect trends.** Overall transect trends are presented in Figure 8, which shows the total number of mature plants per transect over time on a single graph. Three transects have overall decline (Badger Pass North, French Creek - Park Mine, and Horse Prairie), while two transects are stable (Badger Pass Microwave and French Creek - Discovery Mine). The Forest Service transects where decline occurred are also the ones that had the largest initial total numbers of individuals, an important factor in retaining the "S2" state rank for Penstemon lemhiensis. The same trends in total number of plants per transect are reflected in the trends of plant density (Figure 12).

We did not design the sampling to monitor population trend, but the transects were laid in areas where the highest initial population densities were to be found. We observed that the overall pattern within the transect reflects the surrounding changes in numbers, so that they serve for preliminary population trend inference. We note that trends differ for sites that are located close to one another within 5 km (Badger Pass transect pairs, French Creek transect pairs).

We cannot project these transect trends across the species' range in Montana without making hypotheses about the relationship between the transects to the species across its range. This requires interpretation of species' habitat requirements, and interpretation of the relationship between occurrences - these are presented at the end of this section.

The surge in seedling numbers during 1993 (Figure 7) suggests that, in years when climate conditions are more amenable, populations of P. lemhiensis can begin to recover from previous declines. But the level of recovery at the two declining Forest Service sites to date has been a rebound which is still less than half of the original numbers.

The continued precarious status of numerous occurrences on Forest Service and Bureau of Land Management lands suggests that Penstemon lemhiensis should remain on the sensitive species lists for Regions 1 and 4 of the U.S. Forest Service and for the Montana Office of the Bureau of Land Management. It is also recommended that P. lemhiensis be recognized as a "plant species at risk" by the U.S. Fish and Wildlife Service.

**Seedling stage.** The most critical life history stage for this species is seedling establishment, seedling survival and rosette survival. A total of 192 seedling plants were observed at five sites during the 4-6 years of monitoring. None matured to become fruit-producing plants and nearly all died during the monitoring period.

The 1989 seedling class at the French Creek - Discovery Mine included 12 seedlings and was the largest initial seedling class among seedling classes in the baseline years. They had an average life span of 1.6 growing season over the six year period. The longest-lived individual survived to the fourth growing season before it died. This transect also had the most stable number of seedlings per transect each year (Figure 7), and lies along a small draw, which probably provides for increased moisture and protection during drier conditions. It also had consistently high seedling survival between years (Figure 10), though survival of established plants was only fair (Figure 14). It represented a relatively mesic microhabitat where moisture collects along a gully.

By contrast, the Badger Pass North site had the most unstable seedling numbers, with little or no seedling establishment most years, and an explosion of seedling establishment in the moist 1993 growing season (Figure 7), most of which did not survive. Badger Pass North has dense cover of Artemisia tridentata, a typical sagebrush foothills landscape setting for the species. We have tentatively identified competition as a factor which limited recovery at this site.

Horse Prairie also had unstable seedling numbers. It is in an "unnatural" setting, the scraped outer slope of a roadside right-of-way. It appears that the excessively unstable, barren habitat of the Horse Prairie site precluded recovery.

**Population structure.** Differences in population structure are also evident between sites. Most transect sample sets became more and more dominated by smaller plants over time, except for the Badger Pass Microwave transect. It is also the most sheltered of transect settings, with scattered tree cover that slows moisture loss during the season, and helps retain snow cover.

We tracked the number of rosettes per individual for all flowering and non-flowering plants. Only non-flowering plants had single rosettes. The one-rosette growth form seems to be a clearinghouse stage which can precede or follow any other stage, so that the trend in single rosette plants (Figure 13) is difficult to access without further transition analysis.

**Mortality.** Mortality among established plants was highest at all populations in 1991 and 1992. Both years had exceptionally high mean monthly temperatures for at least two of the three months of the growing season compared to other years in the period (see Appendix I). Precipitation was low in both years. Overall, mortality was usually highest in the smaller class plants (1-3 rosette plants). Larger plants also died during the monitoring period.

Mortality was usually highest at Badger Pass North. It had the highest mortality among established plants (rosettes + flowering plants) in four of the five years (Figure 8).

**Longevity.** Plants can survive at least six years, and in some populations many of the original plants measured when the monitoring transects were established remained alive throughout the monitoring period. Longevity differs greatly between sites. For example, only 1 out of 105 plants survived for six years at Badger Pass north, while 27 out of 31 plants survived at Badger Pass Microwave over four years.

**Reproductive effort.** Highest fruit production for Penstemon lemhiensis occurred in 1993 following the wet growing season year (Figure 6) for all plots except those with high browse. This species goes back-and-forth between flowering and non-flowering states from year-to-year. None of the plants that flowered in 1989 survived through the six year monitoring period, and few flowered more than twice. Only 16 plants that were originally rosettes (7% of the 1989 total) survived the entire six year period. This is interpreted to mean that Penstemon lemhiensis has episodic flowering.

Percent of reproductive plants ranged from 0-74%. It was relatively constant at the Badger Pass Microwave site, and variable from year-to-year at the other sites. Larger plants were more likely to be reproductive, with the percentage of reproductive individuals in the 7+ rosette size class over 50% and often over 80%. The average number of inflorescences per plant for all years and all sites was mostly under 2.5 inflorescences per flowering plant.

The proportion of fruit-producing plants was consistently high among the set of marked plants at the Badger Pass Microwave tower site compared to the overlapping transect sample set and transect sample sets at all other sites (Figure 11). This points to the skewedness of tracking marked plants for gleaned demographic data when not all of the plants in a given area were marked originally.

Average number of fruit per inflorescence was mostly less than 20. Many flowers failed to produce fruit, which may reflect a lack of pollinators, or a lack of resources during drought years. The failed flower rate was generally over 50%, often over 70%.

The average length of time to first flowering could not be calculated because none of the 192 seedlings that were observed had flowered. We know that it takes a minimum of three years to go from seedling -> rosette -> flowering plant stages, but there may be more than one rosette stage, or at least more than one year required of rosette growth. We may be able to determine the average length of time by following the 1993 seedling class.

Three of the five sites had episodic browse which removed over 50% of the inflorescences (Figure 9). Among them was the Badger Pass Microwave livestock exclosure site where only wildlife could enter, indicating that browsing by wildlife is a major contributing factor. Both the driest and wettest growing seasons had years of high browse, so there is no apparent correlation with moisture and parallel forage availability.

**Conclusion.** The sample size numbers and high degree of variation from year to year are analytical constraints which argue all the more strongly for pooling the data analyses in these two studies with similar objectives. The Bureau of Land Management transects also complement the U.S. Forest Service transects in their settings. The Microwave transect has had the most stable population numbers. It is comparatively sheltered and cool. The Horse Prairie transect is the only "unnatural" setting, and was almost devoid of seedling establishment unlike all other transects. It has proven impossible to relocate individual plants with certainty in the unstable setting, so demographic data cannot be gleaned from it although it provides useful preliminary trend data.

In the course of mapping Penstemon lemhiensis distribution and monitoring select population segments, we have documented contrasting transect trends within two locales (Badger Pass, French Creek). Microhabitats that correspond with moisture accumulation and cool, low-competition settings support relatively low numbers of Penstemon

lemhiensis, but their numbers are relatively stable. Dry, high-competition settings support relatively high numbers, but their numbers are unstable.

We postulate that core subpopulations in the most suitable habitat are unstable under natural climate oscillations in the absence of natural disturbance to create habitat for establishment and recruitment. Marginal habitat with small subpopulations provides a seed source for new core populations, which in turn provide an episodic seed source for new marginal populations. Habitat continuity between core and marginal habitat is relatively intact in Beaverhead County where these studies were conducted, but the natural disturbance regime in core habitat has been curtailed in post-settlement fire control. Climatic variability appears to exacerbate the affect. If this model is accurate, then we would expect a downward spiral effect with continued net decline in species numbers.

Preparation of a rangewide conservation strategy for this species is in the final stages as of this writing. This strategy will provide management recommendations, and identify critical populations, for P. lemhiensis throughout its geographic range in southwest Montana and adjacent Idaho.

#### IV. FUTURE STUDIES AND RECOMMENDATIONS

In 1995, studies to examine the response of Penstemon lemhiensis to prescribed burn management were initiated. Three sites were selected for controlled burn treatment (two on Beaverhead National Forest lands including the Badger Pass North site, and one on BLM-Dillon District lands at the Badger Pass Microwave site). Macroplots were also established to gather pre-burn census data. Controlled burning is currently planned on one of the macroplots in 1995, and the remainder in 1996 (with on-site controls).

Reinstating demographic monitoring at the other two French Creek transects is recommended for its value as part of the longest-running Penstemon lemhiensis monitoring.

In conjunction with the Montana Natural Heritage Program, Dr. Susan Meyer (Intermountain Research Station, Provo, Utah) has agreed to conduct seed germination tests for P. lemhiensis. Viability, germination response with/without cold treatment, and germination responses to variation in temperature and light will be included, to be modeled after earlier work on the genus Penstemon (Meyer 1995). Seeds from three locations will be analyzed, including low- and high-elevation sites in Ravalli and Beaverhead counties, Montana, respectively. The possibility of a study to assess long-term seed viability is also being initiated by the Montana Natural Heritage Program.

| No. of plots                                 | Year | FCPW |      | FCDM  |      | BPN  |      |
|--|------|------|------|-------|------|------|------|
|  |      | 25   | 50   | 25    | 50   | 25   | 50   |
| # plants/ transect                           | 1989 | 1990 | 1991 | 1992  | 1993 | 1994 | 1989 |
| # seedlings transect                         | 84   | 58   | 28   | 18    | 18   | 36   | 35   |
| total # of plants / transect                 | 4    | 4    | 1    | 0     | 14   | 4    | 0    |
| density (plants/m <sup>2</sup> )             | 88   | 62   | 29   | 18    | 32   | 40   | 35   |
| # new plants / transect (R1 and C1)          | 3.5  | 2.5  | 1.2  | 0.7   | 1.3  | 1.6  | 1.4  |
| # new plants / transect (>R1)                | NA   | 2    | 2    | 1     | 2    | 11   | NA   |
| total recruitment                            | NA   | 4    | 0    | 0     | 0    | 1    | NA   |
| # estab. plants not surviving                | 4    | 10   | 3    | 1     | 16   | 16   | 0    |
| % of established plants not surviving        | NA   | 32   | 35   | 14    | 2    | 2    | NA   |
| # of one-rosette plants not surviving        | NA   | 38.1 | 60.3 | 50.0  | 11.1 | 11.1 | NA   |
| # of 2-3 rosette plants not surviving        | NA   | 11   | 14   | 6     | 2    | 2    | NA   |
| # of 4-6 rosette plants not surviving        | NA   | 13   | 15   | 5     | 0    | 0    | NA   |
| # of 7+ rosette plants not surviving         | NA   | 5    | 5    | 1     | 0    | 0    | NA   |
| # of reproductive plants not surviving       | NA   | 15   | 5    | NA    | NA   | 0    | NA   |
| % of 1 rosette plants not surviving          | NA   | 40.7 | 77.8 | 75.0  | 16.7 | 16.7 | NA   |
| % of 2-3 rosette plants not surviving        | NA   | 56.5 | 57.7 | 41.7  | 0.0  | 0.0  | NA   |
| % of 4-6 rosette plants not surviving        | NA   | 25.0 | 45.5 | 12.5  | 0.0  | 0.0  | NA   |
| % of 7+ rosette plants not surviving         | NA   | 21.4 | 0.0  | NA    | NA   | 0.0  | NA   |
| % of reproductive plants not surviving       | NA   | 48.4 | 33.3 | NA    | NA   | 0.0  | NA   |
| # seedlings surviving from the previous year | NA   | 1    | 2    | 1     | NA   | 8    | NA   |
| % of seedlings surviving                     | NA   | 25.0 | 50.0 | 100.0 | NA   | 57.1 | NA   |
| # reproductive plants / transect             | 31   | 15   | 0    | 0     | 3    | 2    | 16   |
| % reproductive plants                        | 36.9 | 25.9 | 0.0  | 0.0   | 16.7 | 5.6  | 45.7 |
| total # inflorescences                       | 58   | 26   | 0    | 0     | 3    | 2    | 30   |
| average # inflorescences/ reproductive plant | 1.9  | 1.7  | 0.0  | 0.0   | 1.0  | 1.9  | 2.1  |
| # of flowering stems browsed                 | NR   | 13   | 1    | NA    | NA   | 0    | 19   |
| % flowering stems browsed                    | 22.4 | 3.8  | NA   | NA    | 0.0  | 50.0 | 63.3 |
| # of plants with only aborted flowers        | NR   | 0    | NA   | NA    | 0    | 0    | NA   |
| # aborted flowers                            | NR   | 498  | NA   | NA    | 0    | 45.0 | NR   |
| ave # aborted flowers per inflorescence      | NR   | 19.2 | NA   | NA    | 0.0  | 45.9 | 0.0  |
| % aborted flowers                            | NR   | 70.8 | NA   | NA    | 0.0  | 90   | NR   |
| # plants fruiting/ transect                  | 29   | 14   | 0    | 0     | 3    | 2    | 8    |
| % plants fruiting                            | 34.5 | 24.1 | 0.0  | 0.0   | 16.7 | 5.6  | 22.9 |
| # fruits/ transect                           | 479  | 205  | 0    | 0     | 249  | 106  | 96   |
| # fruit predated                             | NR   | NR   | NA   | NA    | NR   | NR   | NR   |

Table 1. Population and fecundity data

## TRANSECT

## No. of plots

## Year

mean # fruits per fruiting plant

## mean # fruits/ inflorescence

## # of plants with 1 rosette

## # of reproductive plants with 1 rosette

## # of plants with 2-3 rosettes

## # of reproductive plants with 2-3 rosettes

## # of plants with 4-6 rosettes

## # of reproductive plants with 4-6 rosettes

## # of plants with 7-10 rosettes

## # of reproductive plants with 7-10 rosettes

## # of plants with &gt;10 rosettes

## # of reproductive plants with &gt;10 rosettes

## % total plants with 1 rosette

## % plants with 2-3 rosettes

## %plants with 4-6 rosettes

## % plants with 7-10 rosettes

## % plants with &gt;10 rosettes

## % 1-rosette plants, reproductive

## % of 2-3 rosette plants, reproductive

## % of 4-6 rosette plants, reproductive

## % of &gt;7 rosette plants, reproductive

## % of reproductive plants with 1 rosette

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| TRANSECT                                     | No. of plots | BPM | BPM, MARKED PLANTS |      |      |      |      |      |      |      |      |      | HPPRA |      |       |      |      |
|--|--------------|-----|--------------------|------|------|------|------|------|------|------|------|------|-------|------|-------|------|------|
|  |              |     | 20                 | 1991 | 1992 | 1993 | 1994 | 1995 | 1990 | 1991 | 1992 | 1993 | 1994  | 1995 | 1991  | 1992 | 1993 |
| Year   |              |     | 31                 | 38   | 38   | 40   | 39   | 34   | 38   | 37   | 37   | 37   | 35    | 37   | 36    | 23   | 10   |
| # plants/ transect                           |              |     | 0                  | 0    | 15   | 0    | 3    | NA   | NA   | NA   | NA   | NA   | 2     | 0    | 3     | 0    |      |
| # seedlings transect                         |              |     | 31                 | 38   | 53   | 40   | 42   | 34   | 38   | 37   | 37   | 35   | 39    | 36   | 26    | 10   |      |
| total # of plants / transect                 |              |     | 1.6                | 1.9  | 2.7  | 2.0  | 2.1  | NA   | NA   | NA   | NA   | NA   | 2.0   | 1.8  | 1.3   | 0.5  |      |
| density (plants/m <sup>2</sup> )             |              |     | NA                 | 8    | 1    | 0    | 0    | NA   | NA   | NA   | NA   | NA   | NA    | 5    | NA    | NA   |      |
| # new plants / transect (R1 and C1)          |              |     | NA                 | 3    | 0    | 0    | 1    | NA   | NA   | NA   | NA   | NA   | NA    | 7    | NA    | NA   |      |
| # new plants / transect (>R1)                |              |     | NA                 | 3    | 0    | 0    | 1    | NA   | NA   | NA   | NA   | NA   | NA    | 2    | 12    | NA   |      |
| total recruitment                            |              |     | 0                  | 11   | 16   | 0    | 4    | NA   | NA   | NA   | NA   | NA   | NA    | 2    | 12    | NA   |      |
| # estab. plants not surviving                |              |     | NA                 | 3    | 1    | 1    | 2    | NA   | 2    | 1    | 0    | 0    | 2     | NA   | 12    | NA   |      |
| % of established plants not surviving        |              |     | NA                 | 9.7  | 2.6  | 2.6  | 5.0  | NA   | 5.9  | 2.6  | 0.0  | 0.0  | 5.4   | NA   | 32.4  | NA   |      |
| # of one-rosette plants not surviving        |              |     | NA                 | 2    | 1    | 1    | 2    | NA   | 1    | 0    | 0    | 0    | 1     | NA   | 2     | NA   |      |
| # of 2-3 rosette plants not surviving        |              |     | NA                 | 1    | 0    | 0    | 0    | NA   | 0    | 0    | 0    | 0    | 0     | NA   | 7     | NA   |      |
| # of 4-6 rosette plants not surviving        |              |     | NA                 | 0    | 0    | 0    | 0    | NA   | 1    | 0    | 0    | 0    | 0     | NA   | 1     | NA   |      |
| # of 7+ rosette plants not surviving         |              |     | NA                 | 0    | 0    | 0    | 0    | NA   | 0    | 1    | 0    | 0    | 1     | NA   | 2     | NA   |      |
| # of reproductive plants not surviving       |              |     | NA                 | 0    | 0    | 0    | 0    | NA   | 0    | 0    | 0    | 0    | 0     | 1    | NA    | 2    | NA   |
| % of 1 rosette plants not surviving          |              |     | NA                 | 20.0 | 6.7  | 9.1  | 15.4 | NA   | 20.0 | 0.0  | 0.0  | 0.0  | 0.0   | 14.3 | NA    | 12.5 | NA   |
| % of 2-3 rosette plants not surviving        |              |     | NA                 | 10.0 | 0.0  | 0.0  | NA   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.0  | 46.7  | NA   |      |
| % of 4-6 rosette plants not surviving        |              |     | NA                 | 0.0  | 0.0  | 0.0  | 0.0  | NA   | 7.1  | 0.0  | 0.0  | 0.0  | 0.0   | 0.0  | 100.0 | NA   |      |
| % of 7+ rosette plants not surviving         |              |     | NA                 | 0.0  | 0.0  | 0.0  | 0.0  | NA   | 0.0  | 10.0 | 0.0  | 0.0  | 11.1  | NA   | 40.0  | NA   |      |
| % of reproductive plants not surviving       |              |     | NA                 | NA   | NA   | 3    | NA    | 0    | NA    |      |      |
| % of seedlings surviving                     |              |     | NA                 | NA   | NA   | 20.0 | NA    | 0.0  | NA    |      |      |
| # reproductive plants / transect             |              |     | 16                 | 10   | 9    | 18   | 15   | 18   | 21   | 18   | 16   | 24   | 25    | 4    | 3     | 17   | 5    |
| % reproductive plants                        |              |     | 51.6               | 26.3 | 23.7 | 45.0 | 38.5 | 52.9 | 55.3 | 48.6 | 43.2 | 64.9 | 71.4  | 10.8 | 8.3   | 73.9 | 50.0 |
| total # inflorescences                       |              |     | 15                 | 18   | 11   | 29   | 34   | 25   | 26   | 34   | 30   | 45   | 63    | 12   | 12    | 32   | 13   |
| average # inflorescences/ reproductive plant |              |     | 0.9                | 1.8  | 1.2  | 1.6  | 2.3  | 1.4  | 1.2  | 1.9  | 1.9  | 1.9  | 2.5   | 3.0  | 4.0   | 1.9  | 2.6  |
| # of flowering stems browsed                 |              |     | 6                  | 11   | 8    | 12   | 0    | 5    | 6    | 5    | 11   | 11   | 3     | 4    | 12    | 0    | 5    |
| % flowering stems browsed                    |              |     | 40.0               | 61.1 | 72.7 | 41.4 | 0.0  | 20.0 | 23.1 | 14.7 | 36.7 | 24.4 | 4.8   | 33.3 | 100.0 | 0.0  | 38.5 |
| # of plants with only aborted flowers        |              |     | 305                | 75   | NR   | 444  | 461  | 370  | 723  | 294  | NR   | 830  | 1377  | 144  | 6     | 1014 | 463  |
| ave # aborted flowers per inflorescence      |              |     | 20.3               | 4.2  | NR   | 15.3 | 13.6 | 14.8 | 27.8 | 8.6  | NR   | 18.4 | 21.9  | 12.0 | NA    | 31.7 | 35.6 |
| % aborted flowers                            |              |     | 71.9               | 81.5 | NR   | 91.5 | 58.0 | 66.1 | 75.9 | 60.9 | NR   | 91.8 | 72.6  | 28.4 | 100.0 | 66.9 | 99.1 |
| # plants fruiting/ transect                  |              |     | 17                 | 5    | 3    | 10   | 15   | 16   | 17   | 17   | 10   | 13   | 23    | 3    | 0     | 12   | 3    |
| % plants fruiting                            |              |     | 54.8               | 13.2 | 7.9  | 25.0 | 38.5 | 47.1 | 44.7 | 45.9 | 27.0 | 35.1 | 65.7  | 8.1  | 0.0   | 52.2 | 30.0 |
| # fruits/ transect                           |              |     | 119                | 17   | NR   | 41   | 334  | 190  | 230  | 189  | NR   | 74   | 519   | 363  | 0     | 502  | 4    |
| # fruit predated                             |              |     | NR                 | NR   | NR   | NR   | NR   | NR   | NR   | NR   | NR   | NR   | NR    | 1    | NR    | NR   |      |

| TRANSECT                                    |       | BPM                |      |      |      |      |      |      |      |      |      | HPRA  |       |      |       |      |      |      |      |      |      |
|---|-------|--------------------|------|------|------|------|------|------|------|------|------|-------|-------|------|-------|------|------|------|------|------|------|
| No. of plots                                | 20    | BPM, MARKED PLANTS |      |      |      |      | 20   |      |      |      |      | HPRA  |       |      |       |      | 20   |      |      |      |      |
| Year  | 1991  | 1992               | 1993 | 1994 | 1995 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1991  | 1992  | 1993 | 1994  | 1995 | 1991 | 1992 | 1993 | 1994 | 1995 |
| mean # fruits per fruiting plant            |       |                    |      |      |      |      |      |      |      |      |      |       |       |      |       |      |      |      |      |      |      |
| mean # fruits/inflorescence                 | 7.0   | 3.4                | NR   | 4.1  | 22.3 | 11.9 | 13.5 | 7.0  | NR   | 5.7  | 22.6 | 121.0 | 0.0   | 41.8 | 1.3   |      |      |      |      |      |      |
| # of plants with 1 rosette                  | 7.9   | 0.9                | NR   | 1.4  | 9.8  | 7.6  | 8.8  | 5.6  | NR   | 1.6  | 8.2  | 30.3  | 0.0   | 15.7 | 0.3   |      |      |      |      |      |      |
| # of reproductive plants with 1 rosette     | 10    | 15                 | 11   | 13   | 12   | 5    | 6    | 6    | 7    | 4    | 16   | 13    | 3     | 4    |       |      |      |      |      |      |      |
| # of plants with 2-3 rosettes               | 2     | 2                  | 1    | 3    | 0    | 0    | 2    | 2    | 1    | 4    | 2    | 0     | 1     | 0    | 0     |      |      |      |      |      |      |
| # of reproductive plants with 2-3 rosettes  | 10    | 11                 | 11   | 9    | 10   | 10   | 11   | 12   | 13   | 10   | 11   | 15    | 16    | 3    | 3     |      |      |      |      |      |      |
| # of reproductive plants with 2-3 rosettes  | 3     | 2                  | 2    | 4    | 3    | 7    | 4    | 3    | 5    | 6    | 5    | 0     | 0     | 2    | 2     |      |      |      |      |      |      |
| # of plants with 4-6 rosettes               | 5     | 8                  | 11   | 11   | 9    | 14   | 11   | 9    | 11   | 8    | 1    | 5     | 10    | 3    |       |      |      |      |      |      |      |
| # of reproductive plants with 4-6 rosettes  | 5     | 5                  | 3    | 7    | 5    | 7    | 7    | 8    | 4    | 8    | 7    | 0     | 0     | 8    | 3     |      |      |      |      |      |      |
| # of plants with 7-10 rosettes              | 4     | 3                  | 4    | 7    | 7    | 3    | 5    | 5    | 6    | 8    | 9    | 2     | 0     | 4    | 0     |      |      |      |      |      |      |
| # of reproductive plants with 7-10 rosettes | 4     | 0                  | 3    | 4    | 7    | 2    | 4    | 2    | 4    | 5    | 9    | 2     | 0     | 4    | 0     |      |      |      |      |      |      |
| # of plants with >10 rosettes               | 1     | 1                  | 1    | 0    | 1    | 2    | 5    | 3    | 3    | 1    | 3    | 3     | 2     | 3    | 0     |      |      |      |      |      |      |
| # of reproductive plants with >10 rosettes  | 1     | 1                  | 0    | 0    | 0    | 2    | 4    | 3    | 2    | 1    | 2    | 2     | 2     | 3    | 0     |      |      |      |      |      |      |
| % total plants with 1 rosette               | 32.3  | 39.5               | 28.9 | 32.5 | 30.8 | 14.7 | 15.8 | 16.2 | 18.9 | 11.4 | 43.2 | 36.1  | 13.0  | 40.0 |       |      |      |      |      |      |      |
| % plants with 2-3 rosettes                  | 32.3  | 28.9               | 28.9 | 22.5 | 25.6 | 29.4 | 28.9 | 32.4 | 35.1 | 27.0 | 31.4 | 40.5  | 44.4  | 13.0 | 30.0  |      |      |      |      |      |      |
| % plants with 4-6 rosettes                  | 16.1  | 21.1               | 28.9 | 27.5 | 23.1 | 41.2 | 28.9 | 29.7 | 24.3 | 29.7 | 22.9 | 2.7   | 13.9  | 43.5 | 30.0  |      |      |      |      |      |      |
| % plants with 7-10 rosettes                 | 12.9  | 7.9                | 10.5 | 17.5 | 17.9 | 8.8  | 13.2 | 13.5 | 16.2 | 21.6 | 25.7 | 5.4   | 0.0   | 17.4 | 0.0   |      |      |      |      |      |      |
| % plants with >10 rosettes                  | 3.2   | 2.6                | 2.6  | 0.0  | 2.6  | 5.9  | 13.2 | 8.1  | 8.1  | 2.7  | 8.6  | 8.1   | 5.6   | 13.0 | 0.0   |      |      |      |      |      |      |
| % 1-rosette plants, reproductive            | 20.0  | 13.3               | 9.1  | 23.1 | 0.0  | 0.0  | 33.3 | 33.3 | 16.7 | 57.1 | 50.0 | 0.0   | 7.7   | 0.0  | 0.0   |      |      |      |      |      |      |
| % of 2-3 rosette plants, reproductive       | 30.0  | 18.2               | 44.4 | 30.0 | 70.0 | 36.4 | 25.0 | 38.5 | 60.0 | 45.5 | 0.0  | 0.0   | 66.7  | 66.7 |       |      |      |      |      |      |      |
| % of 4-6 rosette plants, reproductive       | 100.0 | 62.5               | 27.3 | 63.6 | 55.6 | 50.0 | 63.6 | 72.7 | 44.4 | 72.7 | 87.5 | 0.0   | 0.0   | 80.0 | 100.0 |      |      |      |      |      |      |
| % of >7 rosette plants, reproductive        | 100.0 | 25.0               | 60.0 | 57.1 | 87.5 | 80.0 | 80.0 | 62.5 | 66.7 | 91.7 | 80.0 | 100.0 | 100.0 | NA   |       |      |      |      |      |      |      |
| % of reproductive plants with 1 rosette     | 12.5  | 20.0               | 11.1 | 16.7 | 0.0  | 0.0  | 9.5  | 11.1 | 6.3  | 16.7 | 8.0  | 0.0   | 33.3  | 0.0  | 0.0   |      |      |      |      |      |      |

# PENSTEMON LEMHIIENSIS

## French Creek - Park Mine

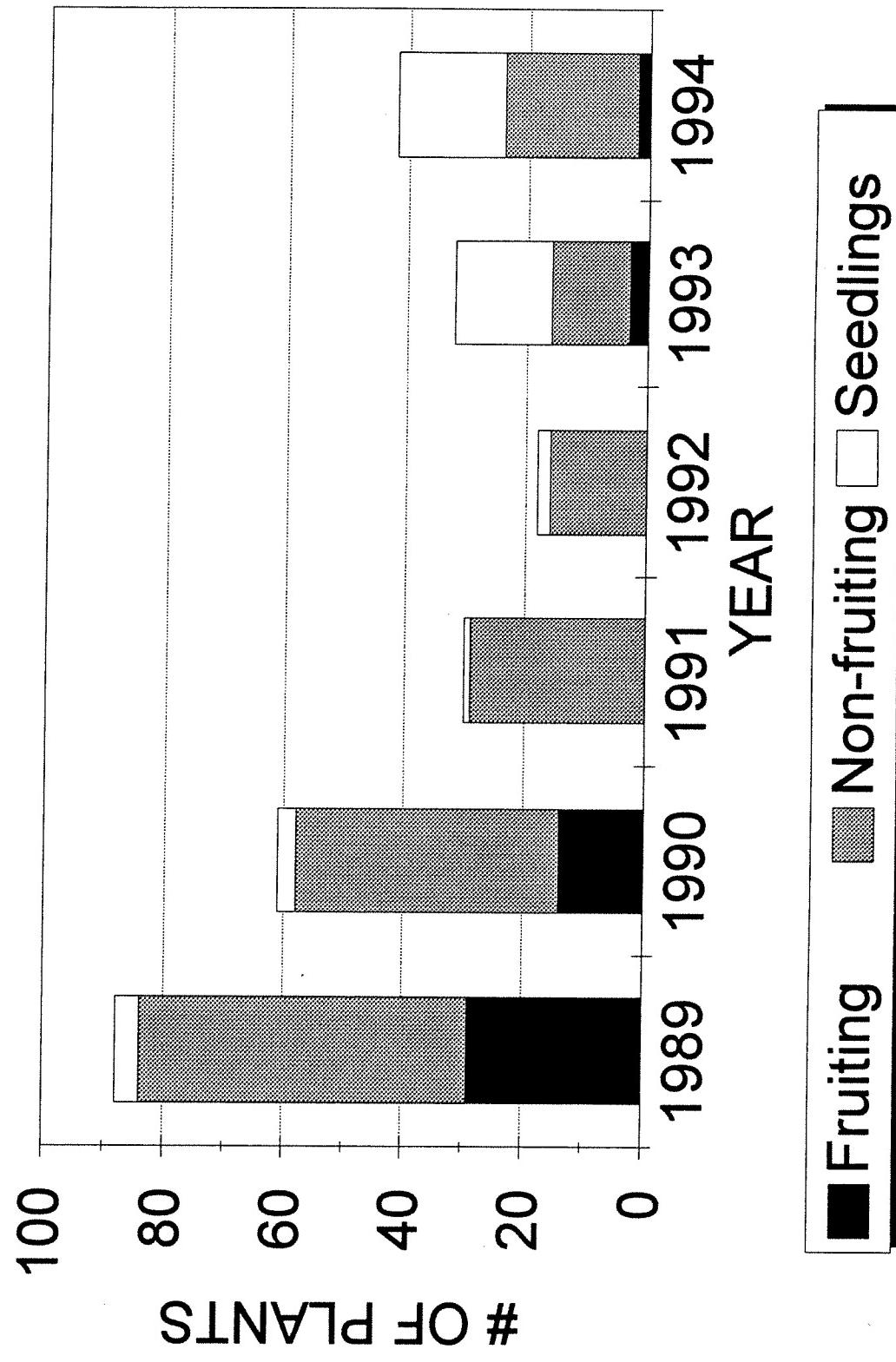


Figure 1.

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# PENSTEMON LEMHIENSIS

## French Creek - Discovery Mine

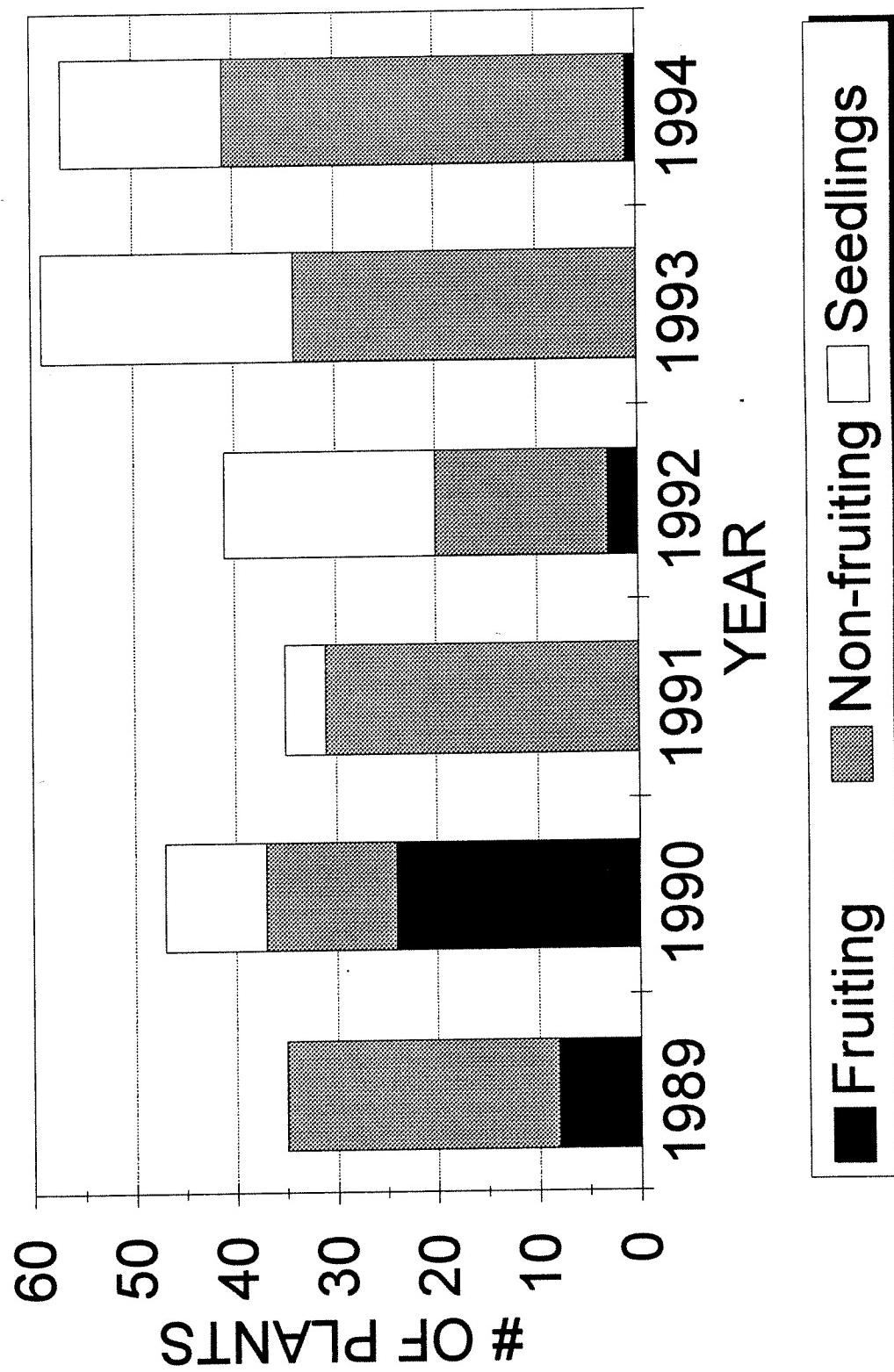


Figure 2.

# PENSTEMON LEMHIENSIS

## Badger Pass North

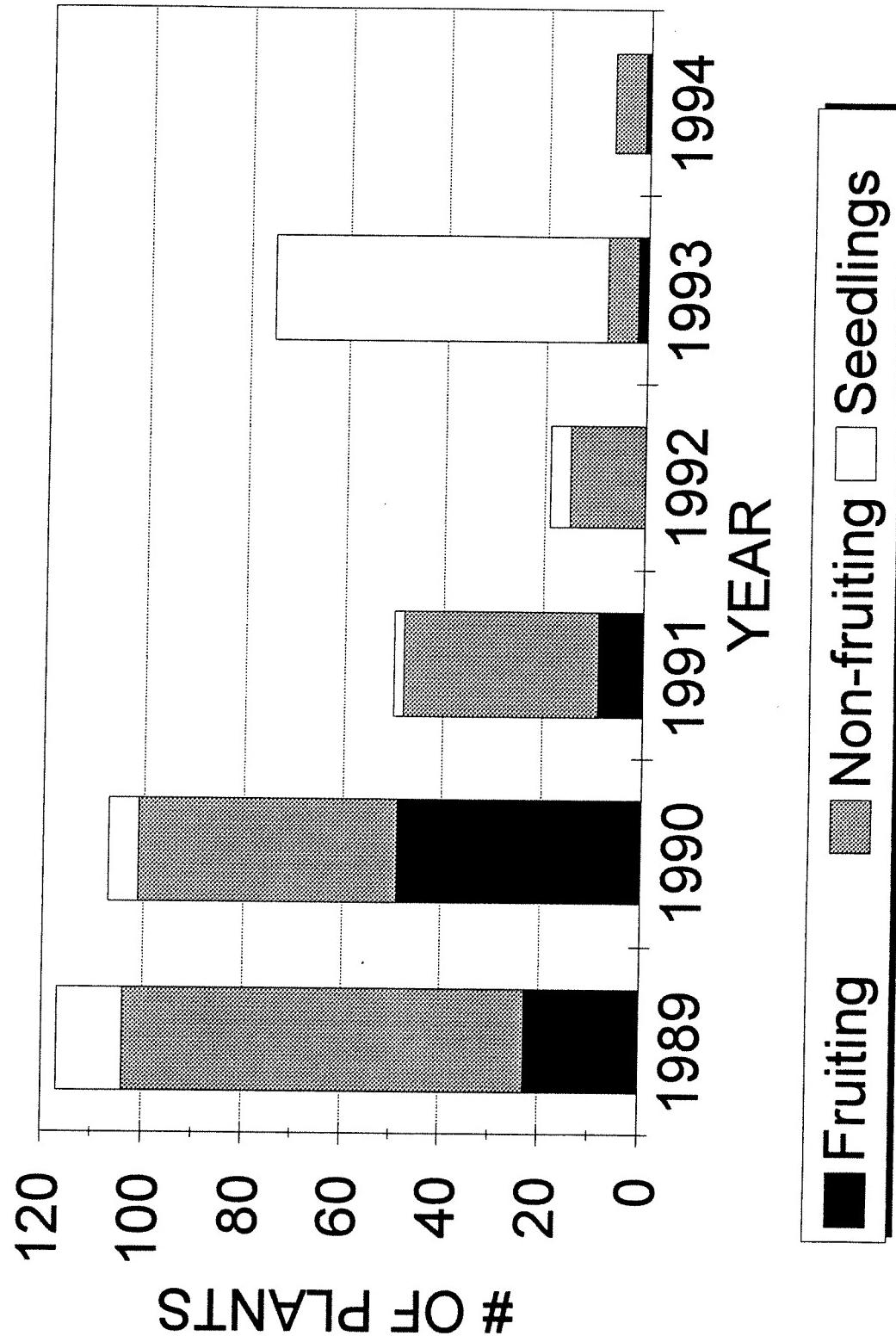


Figure 3.

# PENSTEMON LEMHIENSIS

## Badger Pass Microwave

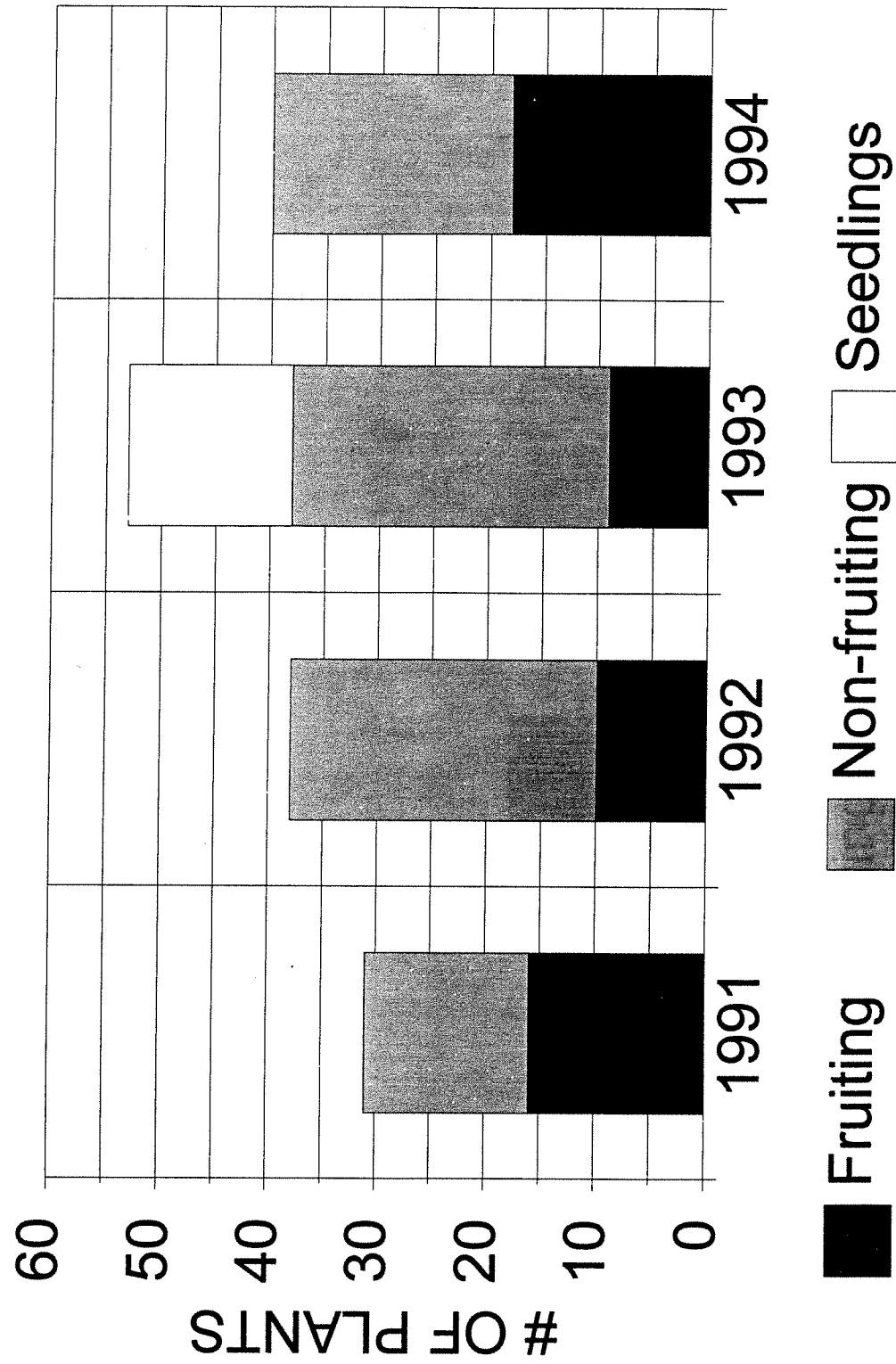


Figure 4.

# PENSTEMON LEMHIIENSIS

## Horse Prairie

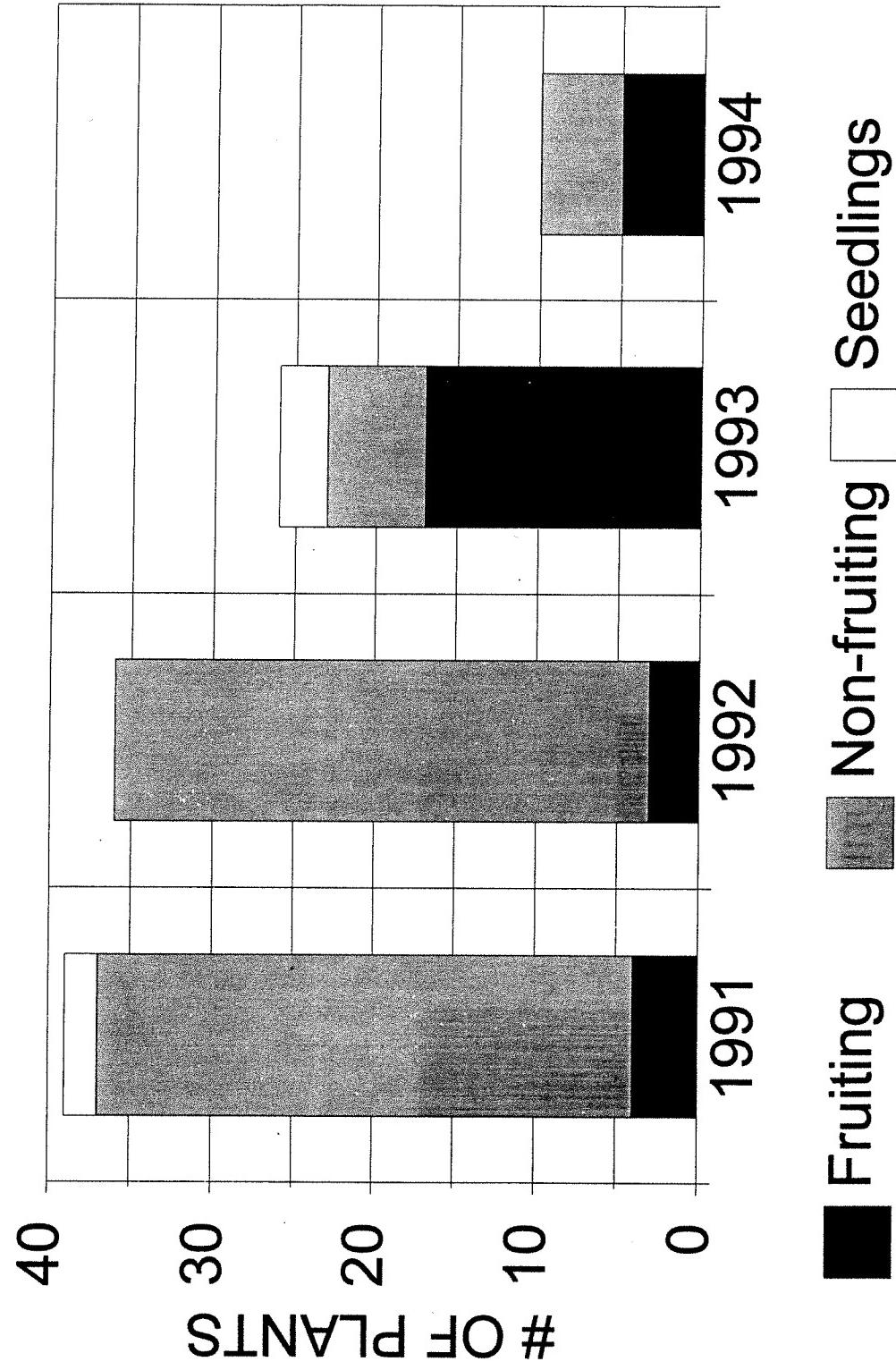


Figure 5.

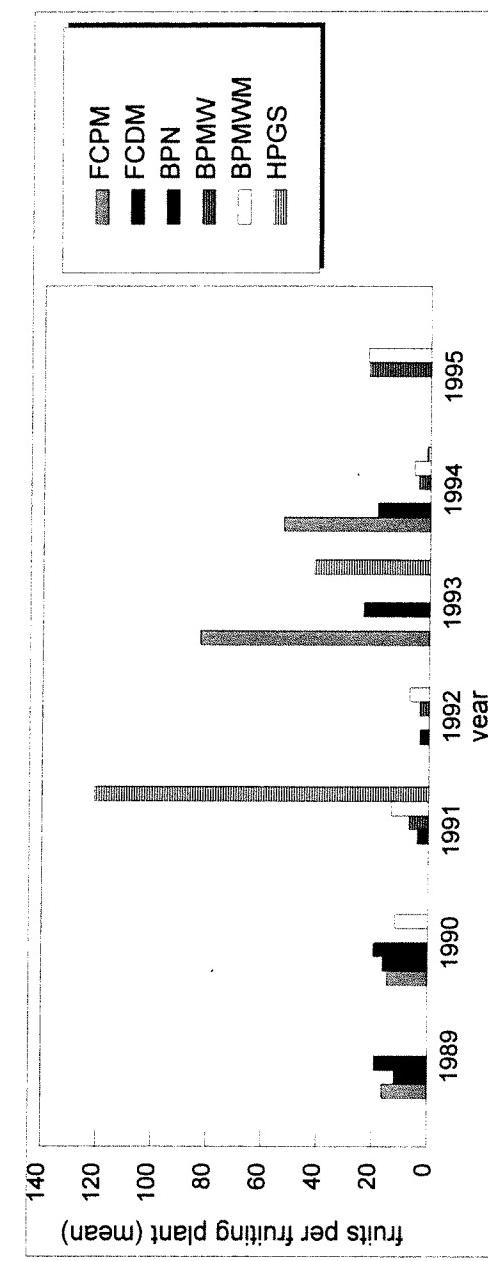


Figure 6. Fruits per fruiting plant

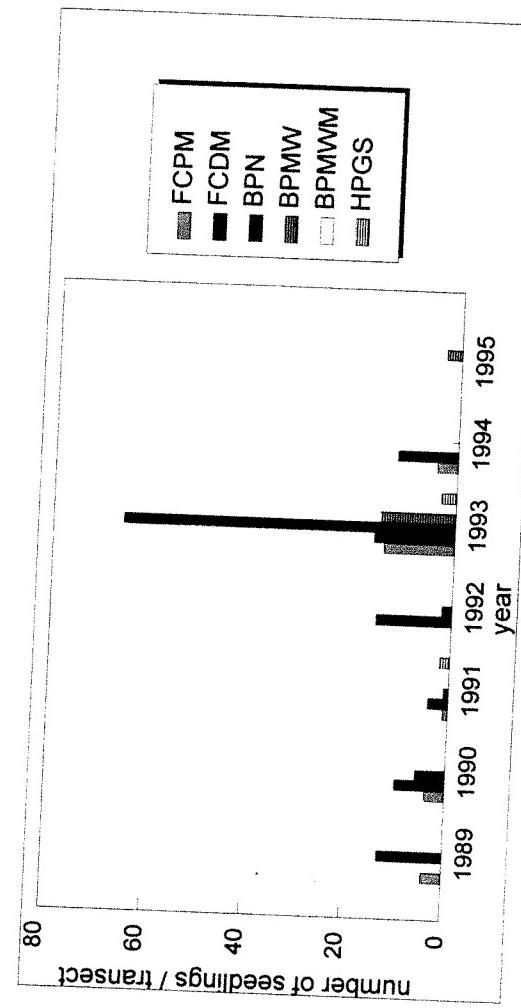


Figure 7. Seedling numbers

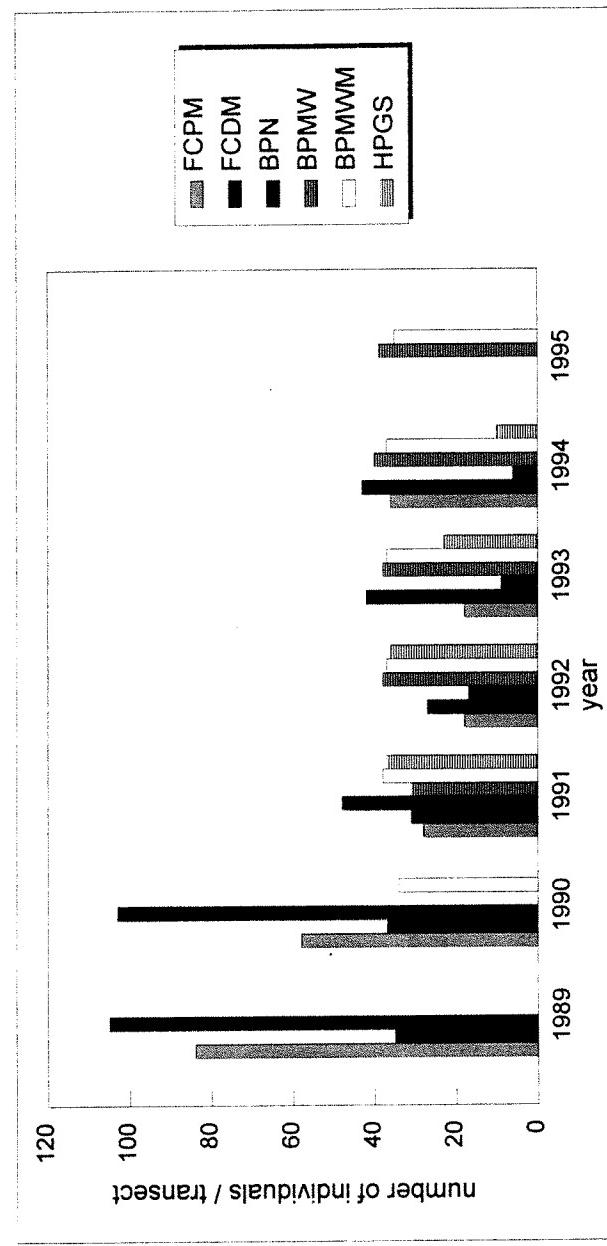


Figure 8. Mature plant numbers

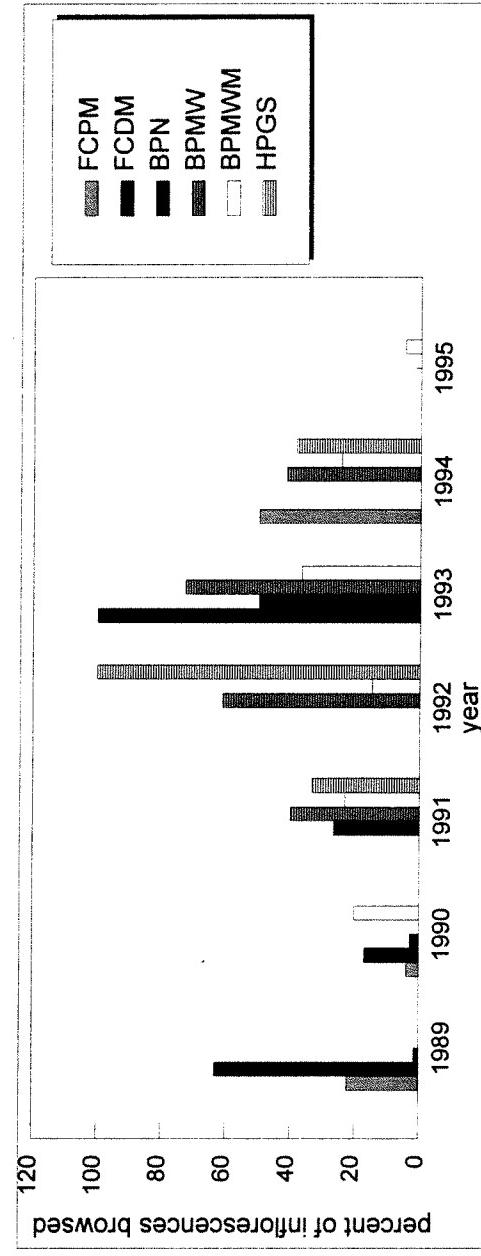


Figure 9. Inflorescence browse

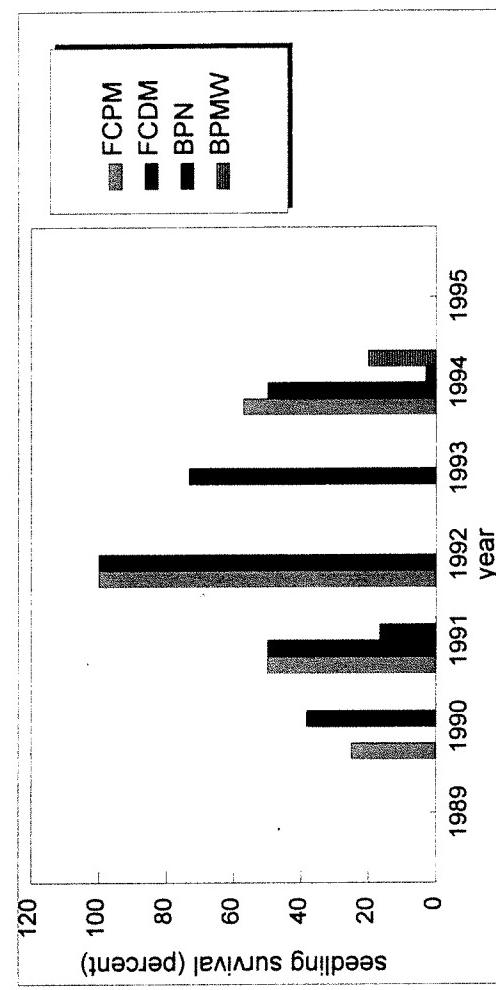


Figure 10. Seedling survival

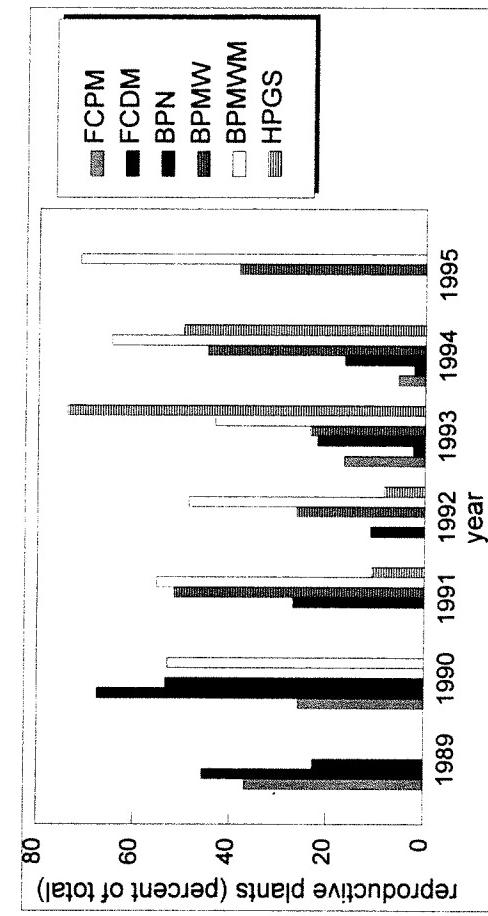


Figure 11. Fruiting levels

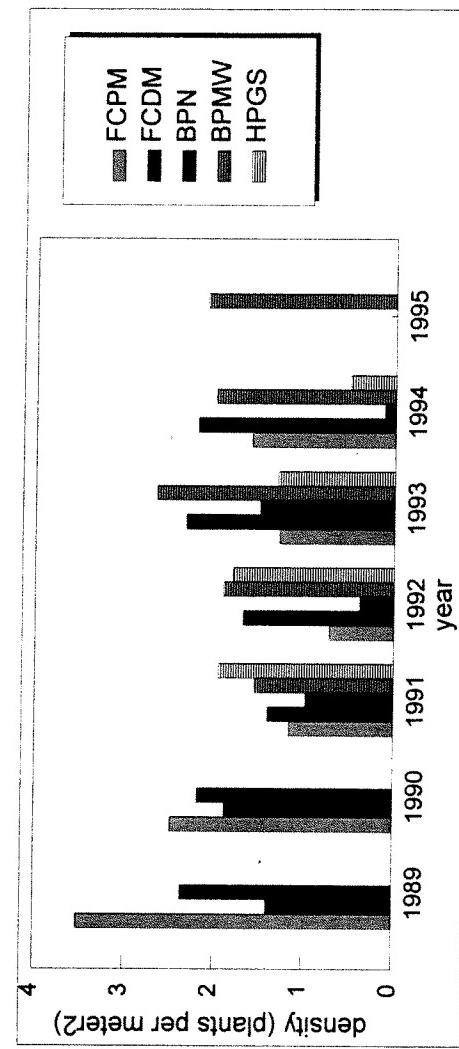


Figure 12. Total plant density

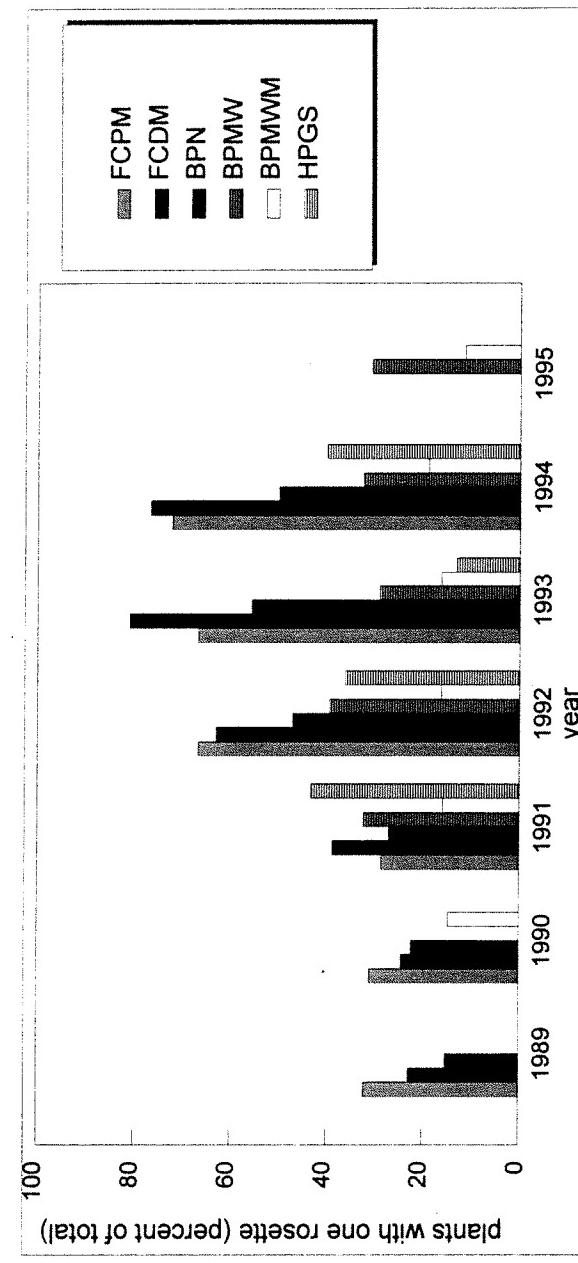


Figure 13. Single rosette numbers

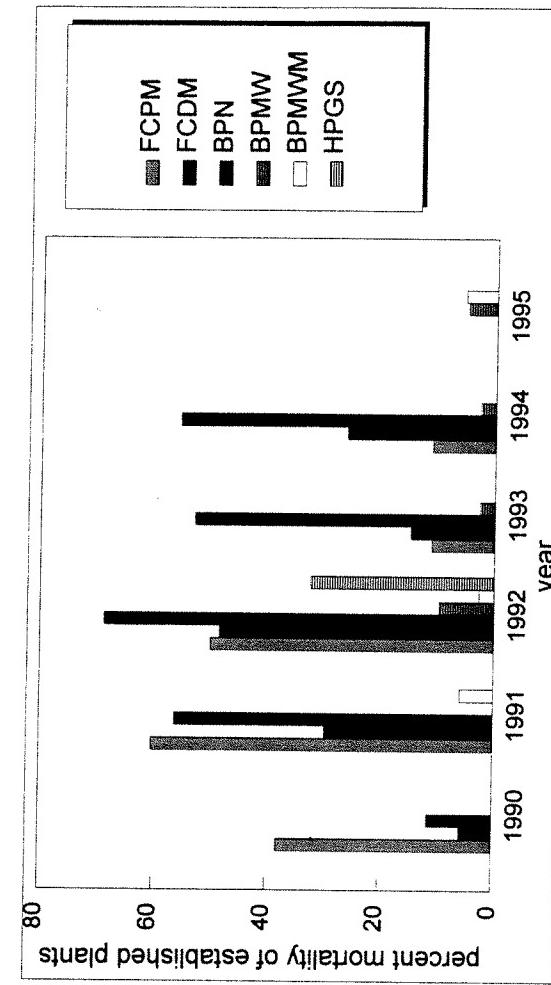


Figure 14. Mature plant mortality

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## APPENDIX A. DEMOGRAPHIC MONITORING TRANSECT DATA



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| Year | Plant Growth Parameters |               |                           |           |                            |           |                            |           |                            |           |                            |           | Flower and Seed Production |           |                            |           |                            |           |                            |           |  |  |  |  |
|------|-------------------------|---------------|---------------------------|-----------|----------------------------|-----------|----------------------------|-----------|----------------------------|-----------|----------------------------|-----------|----------------------------|-----------|----------------------------|-----------|----------------------------|-----------|----------------------------|-----------|--|--|--|--|
|      | Height (cm)             | Diameter (mm) | Leaves (cm <sup>2</sup> ) | Roots (g) | Flowers (cm <sup>2</sup> ) | Seeds (g) |  |  |  |  |
| 1989 | 2.0                     | 0.5           | 10                        | 2.5       | 1.5                        | 0.2       | 1.5                        | 1.5       | 0.2                        | 1.5       | 0.2                        | 1.5       | 1.5                        | 0.2       | 1.5                        | 1.5       | 0.2                        | 1.5       | 0.2                        | 1.5       |  |  |  |  |
|      | 2.1                     | 0.6           | 11                        | 2.6       | 1.6                        | 0.3       | 1.6                        | 1.6       | 0.3                        | 1.6       | 0.3                        | 1.6       | 1.6                        | 0.3       | 1.6                        | 1.6       | 0.3                        | 1.6       | 0.3                        | 1.6       |  |  |  |  |
|      | 2.2                     | 0.7           | 12                        | 2.7       | 1.7                        | 0.4       | 1.7                        | 1.7       | 0.4                        | 1.7       | 0.4                        | 1.7       | 1.7                        | 0.4       | 1.7                        | 1.7       | 0.4                        | 1.7       | 0.4                        | 1.7       |  |  |  |  |
|      | 2.3                     | 0.8           | 13                        | 2.8       | 1.8                        | 0.5       | 1.8                        | 1.8       | 0.5                        | 1.8       | 0.5                        | 1.8       | 1.8                        | 0.5       | 1.8                        | 1.8       | 0.5                        | 1.8       | 0.5                        | 1.8       |  |  |  |  |
|      | 2.4                     | 0.9           | 14                        | 2.9       | 1.9                        | 0.6       | 1.9                        | 1.9       | 0.6                        | 1.9       | 0.6                        | 1.9       | 1.9                        | 0.6       | 1.9                        | 1.9       | 0.6                        | 1.9       | 0.6                        | 1.9       |  |  |  |  |
|      | 2.5                     | 1.0           | 15                        | 3.0       | 2.0                        | 0.7       | 2.0                        | 2.0       | 0.7                        | 2.0       | 0.7                        | 2.0       | 2.0                        | 0.7       | 2.0                        | 2.0       | 0.7                        | 2.0       | 0.7                        | 2.0       |  |  |  |  |
|      | 2.6                     | 1.1           | 16                        | 3.1       | 2.1                        | 0.8       | 2.1                        | 2.1       | 0.8                        | 2.1       | 0.8                        | 2.1       | 2.1                        | 0.8       | 2.1                        | 2.1       | 0.8                        | 2.1       | 0.8                        | 2.1       |  |  |  |  |
|      | 2.7                     | 1.2           | 17                        | 3.2       | 2.2                        | 0.9       | 2.2                        | 2.2       | 0.9                        | 2.2       | 0.9                        | 2.2       | 2.2                        | 0.9       | 2.2                        | 2.2       | 0.9                        | 2.2       | 0.9                        | 2.2       |  |  |  |  |
|      | 2.8                     | 1.3           | 18                        | 3.3       | 2.3                        | 1.0       | 2.3                        | 2.3       | 1.0                        | 2.3       | 1.0                        | 2.3       | 2.3                        | 1.0       | 2.3                        | 2.3       | 1.0                        | 2.3       | 1.0                        | 2.3       |  |  |  |  |
|      | 2.9                     | 1.4           | 19                        | 3.4       | 2.4                        | 1.1       | 2.4                        | 2.4       | 1.1                        | 2.4       | 1.1                        | 2.4       | 2.4                        | 1.1       | 2.4                        | 2.4       | 1.1                        | 2.4       | 1.1                        | 2.4       |  |  |  |  |
|      | 3.0                     | 1.5           | 20                        | 3.5       | 2.5                        | 1.2       | 2.5                        | 2.5       | 1.2                        | 2.5       | 1.2                        | 2.5       | 2.5                        | 1.2       | 2.5                        | 2.5       | 1.2                        | 2.5       | 1.2                        | 2.5       |  |  |  |  |
|      | 3.1                     | 1.6           | 21                        | 3.6       | 2.6                        | 1.3       | 2.6                        | 2.6       | 1.3                        | 2.6       | 1.3                        | 2.6       | 2.6                        | 1.3       | 2.6                        | 2.6       | 1.3                        | 2.6       | 1.3                        | 2.6       |  |  |  |  |
|      | 3.2                     | 1.7           | 22                        | 3.7       | 2.7                        | 1.4       | 2.7                        | 2.7       | 1.4                        | 2.7       | 1.4                        | 2.7       | 2.7                        | 1.4       | 2.7                        | 2.7       | 1.4                        | 2.7       | 1.4                        | 2.7       |  |  |  |  |
|      | 3.3                     | 1.8           | 23                        | 3.8       | 2.8                        | 1.5       | 2.8                        | 2.8       | 1.5                        | 2.8       | 1.5                        | 2.8       | 2.8                        | 1.5       | 2.8                        | 2.8       | 1.5                        | 2.8       | 1.5                        | 2.8       |  |  |  |  |
|      | 3.4                     | 1.9           | 24                        | 3.9       | 2.9                        | 1.6       | 2.9                        | 2.9       | 1.6                        | 2.9       | 1.6                        | 2.9       | 2.9                        | 1.6       | 2.9                        | 2.9       | 1.6                        | 2.9       | 1.6                        | 2.9       |  |  |  |  |
|      | 3.5                     | 2.0           | 25                        | 4.0       | 3.0                        | 1.7       | 3.0                        | 3.0       | 1.7                        | 3.0       | 1.7                        | 3.0       | 3.0                        | 1.7       | 3.0                        | 3.0       | 1.7                        | 3.0       | 1.7                        | 3.0       |  |  |  |  |
|      | 3.6                     | 2.1           | 26                        | 4.1       | 3.1                        | 1.8       | 3.1                        | 3.1       | 1.8                        | 3.1       | 1.8                        | 3.1       | 3.1                        | 1.8       | 3.1                        | 3.1       | 1.8                        | 3.1       | 1.8                        | 3.1       |  |  |  |  |
|      | 3.7                     | 2.2           | 27                        | 4.2       | 3.2                        | 1.9       | 3.2                        | 3.2       | 1.9                        | 3.2       | 1.9                        | 3.2       | 3.2                        | 1.9       | 3.2                        | 3.2       | 1.9                        | 3.2       | 1.9                        | 3.2       |  |  |  |  |
|      | 3.8                     | 2.3           | 28                        | 4.3       | 3.3                        | 2.0       | 3.3                        | 3.3       | 2.0                        | 3.3       | 2.0                        | 3.3       | 3.3                        | 2.0       | 3.3                        | 3.3       | 2.0                        | 3.3       | 2.0                        | 3.3       |  |  |  |  |
|      | 3.9                     | 2.4           | 29                        | 4.4       | 3.4                        | 2.1       | 3.4                        | 3.4       | 2.1                        | 3.4       | 2.1                        | 3.4       | 3.4                        | 2.1       | 3.4                        | 3.4       | 2.1                        | 3.4       | 2.1                        | 3.4       |  |  |  |  |
|      | 4.0                     | 2.5           | 30                        | 4.5       | 3.5                        | 2.2       | 3.5                        | 3.5       | 2.2                        | 3.5       | 2.2                        | 3.5       | 3.5                        | 2.2       | 3.5                        | 3.5       | 2.2                        | 3.5       | 2.2                        | 3.5       |  |  |  |  |
|      | 4.1                     | 2.6           | 31                        | 4.6       | 3.6                        | 2.3       | 3.6                        | 3.6       | 2.3                        | 3.6       | 2.3                        | 3.6       | 3.6                        | 2.3       | 3.6                        | 3.6       | 2.3                        | 3.6       | 2.3                        | 3.6       |  |  |  |  |
|      | 4.2                     | 2.7           | 32                        | 4.7       | 3.7                        | 2.4       | 3.7                        | 3.7       | 2.4                        | 3.7       | 2.4                        | 3.7       | 3.7                        | 2.4       | 3.7                        | 3.7       | 2.4                        | 3.7       | 2.4                        | 3.7       |  |  |  |  |
|      | 4.3                     | 2.8           | 33                        | 4.8       | 3.8                        | 2.5       | 3.8                        | 3.8       | 2.5                        | 3.8       | 2.5                        | 3.8       | 3.8                        | 2.5       | 3.8                        | 3.8       | 2.5                        | 3.8       | 2.5                        | 3.8       |  |  |  |  |
|      | 4.4                     | 2.9           | 34                        | 4.9       | 3.9                        | 2.6       | 3.9                        | 3.9       | 2.6                        | 3.9       | 2.6                        | 3.9       | 3.9                        | 2.6       | 3.9                        | 3.9       | 2.6                        | 3.9       | 2.6                        | 3.9       |  |  |  |  |
|      | 4.5                     | 3.0           | 35                        | 5.0       | 4.0                        | 2.7       | 4.0                        | 4.0       | 2.7                        | 4.0       | 2.7                        | 4.0       | 4.0                        | 2.7       | 4.0                        | 4.0       | 2.7                        | 4.0       | 2.7                        | 4.0       |  |  |  |  |
|      | 4.6                     | 3.1           | 36                        | 5.1       | 4.1                        | 2.8       | 4.1                        | 4.1       | 2.8                        | 4.1       | 2.8                        | 4.1       | 4.1                        | 2.8       | 4.1                        | 4.1       | 2.8                        | 4.1       | 2.8                        | 4.1       |  |  |  |  |
|      | 4.7                     | 3.2           | 37                        | 5.2       | 4.2                        | 2.9       | 4.2                        | 4.2       | 2.9                        | 4.2       | 2.9                        | 4.2       | 4.2                        | 2.9       | 4.2                        | 4.2       | 2.9                        | 4.2       | 2.9                        | 4.2       |  |  |  |  |
|      | 4.8                     | 3.3           | 38                        | 5.3       | 4.3                        | 3.0       | 4.3                        | 4.3       | 3.0                        | 4.3       | 3.0                        | 4.3       | 4.3                        | 3.0       | 4.3                        | 4.3       | 3.0                        | 4.3       | 3.0                        | 4.3       |  |  |  |  |
|      | 4.9                     | 3.4           | 39                        | 5.4       | 4.4                        | 3.1       | 4.4                        | 4.4       | 3.1                        | 4.4       | 3.1                        | 4.4       | 4.4                        | 3.1       | 4.4                        | 4.4       | 3.1                        | 4.4       | 3.1                        | 4.4       |  |  |  |  |
|      | 5.0                     | 3.5           | 40                        | 5.5       | 4.5                        | 3.2       | 4.5                        | 4.5       | 3.2                        | 4.5       | 3.2                        | 4.5       | 4.5                        | 3.2       | 4.5                        | 4.5       | 3.2                        | 4.5       | 3.2                        | 4.5       |  |  |  |  |
|      | 5.1                     | 3.6           | 41                        | 5.6       | 4.6                        | 3.3       | 4.6                        | 4.6       | 3.3                        | 4.6       | 3.3                        | 4.6       | 4.6                        | 3.3       | 4.6                        | 4.6       | 3.3                        | 4.6       | 3.3                        | 4.6       |  |  |  |  |
|      | 5.2                     | 3.7           | 42                        | 5.7       | 4.7                        | 3.4       | 4.7                        | 4.7       | 3.4                        | 4.7       | 3.4                        | 4.7       | 4.7                        | 3.4       | 4.7                        | 4.7       | 3.4                        | 4.7       | 3.4                        | 4.7       |  |  |  |  |
|      | 5.3                     | 3.8           | 43                        | 5.8       | 4.8                        | 3.5       | 4.8                        | 4.8       | 3.5                        | 4.8       | 3.5                        | 4.8       | 4.8                        | 3.5       | 4.8                        | 4.8       | 3.5                        | 4.8       | 3.5                        | 4.8       |  |  |  |  |
|      | 5.4                     | 3.9           | 44                        | 5.9       | 4.9                        | 3.6       | 4.9                        | 4.9       | 3.6                        | 4.9       | 3.6                        | 4.9       | 4.9                        | 3.6       | 4.9                        | 4.9       | 3.6                        | 4.9       | 3.6                        | 4.9       |  |  |  |  |
|      | 5.5                     | 4.0           | 45                        | 6.0       | 5.0                        | 3.7       | 5.0                        | 5.0       | 3.7                        | 5.0       | 3.7                        | 5.0       | 5.0                        | 3.7       | 5.0                        | 5.0       | 3.7                        | 5.0       | 3.7                        | 5.0       |  |  |  |  |
|      | 5.6                     | 4.1           | 46                        | 6.1       | 5.1                        | 3.8       | 5.1                        | 5.1       | 3.8                        | 5.1       | 3.8                        | 5.1       | 5.1                        | 3.8       | 5.1                        | 5.1       | 3.8                        | 5.1       | 3.8                        | 5.1       |  |  |  |  |
|      | 5.7                     | 4.2           | 47                        | 6.2       | 5.2                        | 3.9       | 5.2                        | 5.2       | 3.9                        | 5.2       | 3.9                        | 5.2       | 5.2                        | 3.9       | 5.2                        | 5.2       | 3.9                        | 5.2       | 3.9                        | 5.2       |  |  |  |  |
|      | 5.8                     | 4.3           | 48                        | 6.3       | 5.3                        | 4.0       | 5.3                        | 5.3       | 4.0                        | 5.3       | 4.0                        | 5.3       | 5.3                        | 4.0       | 5.3                        | 5.3       | 4.0                        | 5.3       | 4.0                        | 5.3       |  |  |  |  |
|      | 5.9                     | 4.4           | 49                        | 6.4       | 5.4                        | 4.1       | 5.4                        | 5.4       | 4.1                        | 5.4       | 4.1                        | 5.4       | 5.4                        | 4.1       | 5.4                        | 5.4       | 4.1                        | 5.4       | 4.1                        | 5.4       |  |  |  |  |
|      | 6.0                     | 4.5           | 50                        | 6.5       | 5.5                        | 4.2       | 5.5                        | 5.5       | 4.2                        | 5.5       | 4.2                        | 5.5       | 5.5                        | 4.2       | 5.5                        | 5.5       | 4.2                        | 5.5       | 4.2                        | 5.5       |  |  |  |  |
|      | 6.1                     | 4.6           | 51                        | 6.6       | 5.6                        | 4.3       | 5.6                        | 5.6       | 4.3                        | 5.6       | 4.3                        | 5.6       | 5.6                        | 4.3       | 5.6                        | 5.6       | 4.3                        | 5.6       | 4.3                        | 5.6       |  |  |  |  |
|      | 6.2                     | 4.7           | 52                        | 6.7       | 5.7                        | 4.4       | 5.7                        | 5.7       | 4.4                        | 5.7       | 4.4                        | 5.7       | 5.7                        | 4.4       | 5.7                        | 5.7       | 4.4                        | 5.7       | 4.4                        | 5.7       |  |  |  |  |
|      | 6.3                     | 4.8           | 53                        | 6.8       | 5.8                        | 4.5       | 5.8                        | 5.8       | 4.5                        | 5.8       | 4.5                        | 5.8       | 5.8                        | 4.5       | 5.8                        | 5.8       | 4.5                        | 5.8       | 4.5                        | 5.8       |  |  |  |  |
|      | 6.4                     | 4.9           | 54                        | 6.9       | 5.9                        | 4.6       | 5.9                        | 5.9       | 4.6                        | 5.9       | 4.6                        | 5.9       | 5.9                        | 4.6       | 5.9                        | 5.9       | 4.6                        | 5.9       | 4.6                        | 5.9       |  |  |  |  |
|      | 6.5                     | 5.0           | 55                        | 7.0       | 6.0                        | 4.7       | 6.0                        | 6.0       | 4.7                        | 6.0       | 4.7                        | 6.0       | 6.0                        | 4.7       | 6.0                        | 6.0       | 4.7                        | 6.0       | 4.7                        | 6.0       |  |  |  |  |
|      | 6.6                     | 5.1           | 56                        | 7.1       | 6.1                        | 4.8       | 6.1                        | 6.1       | 4.8                        | 6.1       | 4.8                        | 6.1       | 6.1                        | 4.8       | 6.1                        | 6.1       | 4.8                        | 6.1       | 4.8                        | 6.1       |  |  |  |  |
|      | 6.7                     | 5.2           | 57                        | 7.2       | 6.2                        | 4.9       | 6.2                        | 6.2       | 4.9                        | 6.2       | 4.9                        | 6.2       | 6.2                        | 4.9       | 6.2                        | 6.2       | 4.9                        | 6.2       | 4.9                        | 6.2       |  |  |  |  |
|      | 6.8                     | 5.3           | 58                        | 7.3       | 6.3                        | 5.0       | 6.3                        | 6.3       | 5.0                        | 6.3       | 5.0                        | 6.3       | 6.3                        | 5.0       | 6.3                        | 6.3       | 5.0                        | 6.3       | 5.0                        | 6.3       |  |  |  |  |
|      | 6.9                     | 5.4           | 59                        | 7.4       | 6.4                        | 5.1       | 6.4                        | 6.4       | 5.1                        | 6.4       | 5.1                        | 6.4       | 6.4                        | 5.1       | 6.4                        | 6.4       | 5.1                        | 6.4       | 5.1                        | 6.4       |  |  |  |  |
|      | 7.0                     | 5.5           | 60                        | 7.5       | 6.5                        | 5.2       | 6.5                        | 6.5       | 5.2                        | 6.5       | 5.2                        | 6.5       | 6.5                        | 5.2       | 6.5                        | 6.5       | 5.2                        | 6.5       | 5.2                        | 6.5       |  |  |  |  |
|      | 7.1                     | 5.6           | 61                        | 7.6       | 6.6                        | 5.3       | 6.6                        | 6.6       | 5.3                        | 6.6       | 5.3                        | 6.6       | 6.6                        | 5.3       | 6.6                        | 6.6       | 5.3                        | 6.6       | 5.3                        | 6.6       |  |  |  |  |
|      | 7.2                     | 5.7           | 62                        | 7.7       | 6.7                        | 5.4       | 6.7                        | 6.7       | 5.4                        | 6.7       | 5.4                        | 6.7       | 6.7                        | 5.4       | 6.7                        | 6.7       | 5.4                        | 6.7       | 5.4                        | 6.7       |  |  |  |  |
|      | 7.3                     | 5.8           | 63                        | 7.8       | 6.8                        | 5.5       | 6.8                        | 6.8       | 5.5                        | 6.8       | 5.5                        | 6.8       | 6.8                        | 5.5       | 6.8                        | 6.8       | 5.5                        | 6.8       | 5.5                        | 6.8       |  |  |  |  |
|      | 7.4                     | 5.9           | 64                        | 7.9       | 6.9                        | 5.6       | 6.9                        | 6.9       | 5.6                        | 6.9       | 5.6                        | 6.9       | 6.9                        | 5.6       | 6.9                        | 6.9       | 5.6                        | 6.9       | 5.6                        | 6.9       |  |  |  |  |
|      | 7.5                     | 6.0           | 65                        | 8.0       | 7.0                        | 5.7       | 7.0                        | 7.0       | 5.7                        | 7.0       | 5.7                        | 7.0       | 7.0                        | 5.7       | 7.0                        | 7.0       | 5.7                        | 7.0       | 5.7                        | 7.0       |  |  |  |  |
|      | 7.6                     | 6.1           | 66                        | 8.1       | 7.1                        | 5.8       | 7.1                        | 7.1       | 5.8                        | 7.1       | 5.8                        | 7.1       | 7.1                        | 5.8       | 7.1                        | 7.1       | 5.8                        | 7.1       | 5.8                        | 7.1       |  |  |  |  |
|      | 7.7                     | 6.2           | 67                        | 8.2       | 7.2                        | 5.9       | 7.2                        | 7.2       | 5.9                        | 7.2       | 5.9                        | 7.2       | 7.2                        | 5.9       | 7.2                        | 7.2       | 5.9                        | 7.2       | 5.9                        | 7.2       |  |  |  |  |
|      | 7.8                     | 6.3           | 68                        | 8.3       | 7.3                        | 6.0       | 7.3                        | 7.3       | 6.0                        | 7.3       | 6.0                        | 7.3       | 7.3                        | 6.0       | 7.3                        | 7.3       | 6.0                        | 7.3       | 6.0                        | 7.3       |  |  |  |  |
|      | 7.9                     | 6.4           | 69                        | 8.4       | 7.4                        | 6.1       | 7.4                        | 7.4       | 6.1                        | 7.4       | 6.1                        | 7.4       | 7.4                        | 6.1       | 7.4                        | 7.4       | 6.1                        | 7.4       | 6.1                        | 7.4       |  |  |  |  |
|      | 8.0                     | 6.5           | 70                        | 8.5       | 7.5                        | 6.2       | 7.5                        | 7.5       | 6.2                        | 7.5       | 6.2                        | 7.5       | 7.5                        | 6.2       | 7.5                        | 7.5       | 6.2                        | 7.5       | 6.2                        | 7.5       |  |  |  |  |
|      | 8.1                     | 6.6           | 71                        | 8.6       | 7.6                        | 6.3       | 7.6                        | 7.6       | 6.3                        | 7.6       | 6.3                        | 7.6       | 7.6                        | 6.3       | 7.6                        | 7.6       | 6.3                        | 7.6       | 6.3                        | 7.6       |  |  |  |  |
|      | 8.2                     | 6.7           | 72                        | 8.7       | 7.7                        | 6.4       | 7.7                        | 7.7       | 6.4                        | 7.7       | 6.4                        | 7.7       | 7.7                        | 6.4       | 7.7                        | 7.7       | 6.4                        | 7.7       | 6.4                        | 7.7       |  |  |  |  |
|      | 8.3                     | 6.8           | 73                        | 8.8       | 7.8                        | 6.5       | 7.8                        | 7.8       | 6.5                        | 7.8       | 6.5                        | 7.8       | 7.8                        | 6.5       | 7.8                        | 7.8       | 6.5                        | 7.8       | 6.5                        | 7.8       |  |  |  |  |
|      | 8.4                     | 6.9           | 74                        | 8.9       | 7.9                        | 6.6       | 7.9                        | 7.9       | 6.6                        | 7.9       | 6.6                        | 7.9       | 7.9                        | 6.6       | 7.9                        | 7.9       | 6.6                        | 7.9       | 6.6                        | 7.9       |  |  |  |  |
|      | 8.5                     | 7.0           | 75                        | 9.0       | 8.0                        | 6.7       | 8.0                        | 8.0       | 6.7                        | 8.0       | 6.7                        | 8.0       | 8.0                        | 6.7       | 8.0                        | 8.0       | 6.7                        | 8.0       | 6.7                        | 8.0       |  |  |  |  |
|      | 8.6                     | 7.1           | 76                        | 9.1       | 8.1                        | 6.8       | 8.1                        | 8.1       | 6.8                        | 8.1       | 6.8                        | 8.1       | 8.1                        | 6.8       | 8.1                        | 8.1       | 6.8                        | 8.1       | 6.8                        | 8.1       |  |  |  |  |
|      | 8.7                     | 7.2           | 77                        | 9.2       | 8.2                        | 6.9       | 8.2                        | 8.2       | 6.9                        | 8.2       | 6.9                        | 8.2       | 8.2                        | 6.9       | 8.2                        | 8.2       | 6.9                        | 8.2       | 6.9                        | 8.2       |  |  |  |  |
|      | 8.8                     | 7.3           | 78                        | 9.3       | 8.3                        | 7.0       | 8.3                        | 8.3       | 7.0                        | 8.3       | 7.0                        | 8.3       | 8.3                        | 7.0       | 8.3                        | 8.3       | 7.0                        | 8.3       | 7.0                        | 8.3       |  |  |  |  |
|      | 8.9                     | 7.4           | 79                        | 9.4       | 8.4                        | 7.1       | 8.4                        | 8.4       | 7.1                        | 8.4       | 7.1                        | 8.4       | 8.4                        | 7.1       | 8.4                        | 8.4       | 7.1                        | 8.4       | 7.1                        | 8.4       |  |  |  |  |
|      | 9.0                     | 7.5           | 80                        | 9.5       | 8.5                        | 7.2       | 8.5                        | 8.5       | 7.2                        | 8.5       | 7.2                        | 8.5       | 8.5                        | 7.2       | 8.5                        | 8.5       | 7.2                        | 8.5       | 7.2                        | 8.5       |  |  |  |  |
|      | 9.1                     | 7.6           | 81                        | 9.6       | 8.6                        | 7.3       | 8.6                        | 8.6       | 7.3                        | 8.6       | 7.3                        | 8.6       | 8.6                        | 7.3       | 8.6                        | 8.6       | 7.3                        | 8         |                            |           |  |  |  |  |

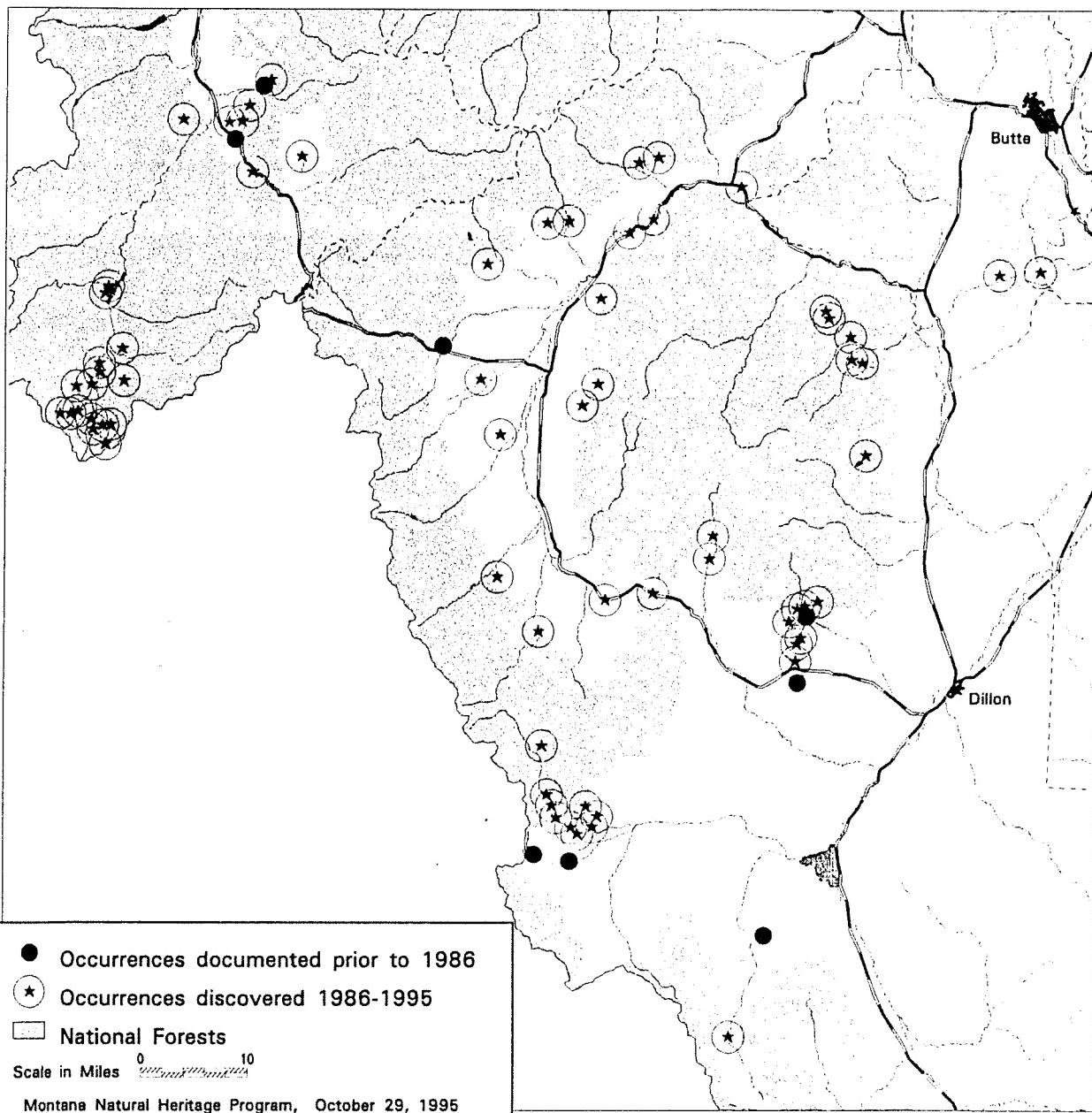






APPENDIX B. PENSTEMON LEMHIENSIS ELEMENT OCCURRENCES IN MONTANA

**Penstemon lemhiensis (Lemhi Beardtongue) in Montana**



July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.001

Element occurrence type:

Survey site name: ARGENTA  
EO rank: B

O rank comments: LARGE POPULATION, OCCURS PARTIALLY ON DISTURBED  
ROADBANK.

County: BEAVERHEAD

SGS quadrangle: ERMONT

Township: Range: Section: TRS comments:  
06S 011W 15 SE4; 22 NE4; 23 NW4NW4

Precision: S

Survey date: 1986-06-20 Elevation: 6700 -

First observation: 1976 Slope/aspect:

Last observation: 1988 Size (acres): 10

Location:

SOUTH PIONEER MOUNTAINS, NORTH SIDE OF BLACK MOUNTAIN ROAD (BEAVERHEAD  
N.F. ROAD 2400), 0.2 MILE WEST OF RATTLENAKE CREEK ROAD (N.F. ROAD  
192), CA. 4 AIR MILES WNW. OF ARGENTA.

Element occurrence data:

206 PLANTS COUNTED IN 1986 (204 ON PRIVATE INHOLDING, 2 ON U.S.F.S.  
LAND); 100 PLANTS COUNTED IN 1988 (K. SCOW); A FEW PLANTS OCCUR ON  
ROADBANKS; LOW LEVEL OF GRAZING; WEED INVASION ALONG THE ROAD.

General site description:

MODERATELY STEEP, SOUTHEAST TO SOUTHWEST-FACING SLOPES; MOST FREQUENT  
IN SPARSELY VEGETATED, ROCKY AREAS; ARTEMISIA TRIDENTATA/ FESTUCA  
IDAHOENSIS/AGROPYRON SPICATUM, WITH BROMUS, SENEPIO.

Land owner/manager:

BEAVERHEAD NATIONAL FOREST, DILLON RANGER DISTRICT  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

Information source: SHELLY, J. S. 1986. [FIELD SURVEYS IN BEAVERHEAD  
COUNTY OF 18-22 JUNE.]

Specimens: WATSON, T. J. (1277). 1976. MONTU.  
SHELLY, J. S. (1140) & G. V. KING. 1986. MONTU.  
ELOFSON (S.N.). MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.002

Element occurrence type:

Survey site name: TRAIL CREEK

EO rank: D

EO rank comments: SMALL SUBPOPULATIONS ALONG ROAD.

County: BEAVERHEAD

USGS quadrangle: EVERSON CREEK  
LEMHI PASS

Township: Range: Section: TRS comments:  
10S 014W 18 S2; 17 SW4; 19 NW4  
10S 015W 24 NE4

Precision: S

Survey date: 1986-06-22 Elevation: 6520 -  
First observation: 1970-07-05 Slope/aspect: 40% / SE  
Last observation: 1989-06-29 Size (acres): 13

Location:

TRAIL CREEK, ALONG ROAD TO LEMHI PASS (BEAVERHEAD N.F. RD. 3909.2),  
CA. 3.5-4.5 AIR MI. ESE. OF LEMHI PASS.

Element occurrence data:

70-100 PLANTS, 6 SUBPOPULATIONS; IN FULL FLOWER; MOST PLANTS OCCUR  
ALONG ROADSIDE.

General site description:

SANDY TO GRAVELLY LOAM SOILS, ON ALLUVIAL FAN AND ALONG ROAD;  
SAGEBRUSH, ARTEMISIA TRIDENTATA/POA SECUNDA, WITH BROMUS TECTORUM,  
SITANION HYSTRIX, CHRYSOTHAMNUS NAUSEOSUS AND ERIOGONUM OVALIFOLIUM  
VAR NEVADENSE.

Land owner/manager:

PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

Information source: SHELLY, J. S. 1986. [FIELD SURVEYS IN BEAVERHEAD  
COUNTY OF 18-22 JUNE.]

Specimens: WATSON, T. J. (1279). 1976. MONTU.  
STICKNEY, P.F. (2107). 1970. MRC.  
SCHASSBERGER, L.A. (299). 1989.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.003

Element occurrence type:

Survey site name: LEMHI PASS

EO rank: C

CO rank comments: MODERATE-SIZED POPULATIONS, IN NATIVE HABITAT &  
ALONG ROAD.

County: BEAVERHEAD

SGS quadrangle: LEMHI PASS

Township: Range: Section: TRS comments:  
10S 015W 15 SE4NW4, NE4SE4; 14 SW4

Precision: S

Survey date: 1986-06-22 Elevation: 6960 -

First observation: 1983 Slope/aspect:

Last observation: 1989-06-29 Size (acres): 15

Location:

NORTH SIDE OF LEMHI PASS ROAD (BEAVERHEAD N.F. RD. 3909.2), 1.0-1.6  
AIR MILES SE. OF LEMHI PASS, CA. 1.4-2.0 MILES WEST OF SELWAY RANCH.

Element occurrence data:

164 PLANTS COUNTED, 3 SUBPOPULATIONS; CA. 90% OF THE PLANTS OCCUR ON  
NATIVE SAGEBRUSH SLOPES ABOVE THE ROAD; SPECIES OCCURS IN MORE OPEN,  
GRAVELLY AREAS.

General site description:

GRAVELLY LOAM SOILS, ON SW. TO SE.-FACING SLOPES; ARTEMISIA  
TRIDENTATA/FESTUCA IDAHOENSIS, WITH PHACELIA HETEROPHYLLA, BROMUS  
TECTORUM, LUPINUS, PHLOX, POA, ACHILLEA, ROSA, MAHONIA REPENS,  
GERANIUM VISCOSSISSIMUM, HELIANTHELLA UNIFLORA, ERIOGONUM UMBELLATUM  
VAR INTECTUM AND VAR SUBALPINUM.

Land owner/manager:

PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

Information source: SCHASSBERGER, L. A. 1989. [MTNHP FIELD SURVEYS OF  
SOUTHWEST MONTANA, 26-30 JUNE (PENSTEMON  
LEMHIENSIS).]

Specimens: SHELLY, J. S. (1155) AND G.V. KING. 1986. MONTU.  
SCHASSBERGER, L. A. (302). 1989.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.004

Element occurrence type:

Survey site name: NORTH FORK RYE CREEK

EO rank: C

C rank comments: FAIRLY SMALL POPULATION, IN WEEDY HABITAT.

County: RAVALLI

SGS quadrangle: ROBBINS GULCH

Township: Range: Section: TRS comments:

003N 020W 25 NW4SW4, SW4NW4

Precision: S

Survey date: 1989-06-26 Elevation: 4320 -

First observation: 1952 Slope/aspect: 35% / WEST

Last observation: 1989-06-26 Size (acres): 3

Location:

WESTERN FOOTHILLS OF THE SAPPHIRE MOUNTAINS, NORTH FORK RYE CREEK DRAINAGE, EAST SIDE OF BITTERROOT N.F. RD. #321, 0.2 AND 0.35 MILES NORTH OF RYE CREEK RD. (#75), CA. 7.5 AIR MILES ESE OF DARBY.

Element occurrence data:

TWO SUBPOPULATIONS; 72 PLANTS (SOUTH), WITH 65 ON SLOPE ABOVE ROADCUT; 11 PLANTS (NORTH), ALL ON ROADCUT; HABITAT HEAVILY INFESTED WITH WEEDS; LARGEST POPULATION KNOWN IN RAVALLI COUNTY.

General site description:

SANDY TO GRAVELLY GRANITIC SOILS, ON STEEP WEST-FACING SLOPES; PINUS PONDEROSA/PURSHIA TRIDENTATA HABITAT, WITH AGROPYRON SPICATUM, KOELERIA CRISTATA, PENSTEMON ALBERTINUS, BALSAMORHIZA SAGITTATA, PHACELIA LINEARIS, GERANIUM VISCOISSIMUM, CENTAUREA MACULOSA, BROMUS TECTORUM, LITHOSPERMUM RUDERALE, MELilotus OFFICINALIS.

Land owner/manager:

PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

PROBABLE RELOCATION OF HISTORICAL RECORD, WRIGHT, 1952: "10 MILES E. OF DARBY, SAPPHIRE MTS. FOOTHILLS, SANDY GRANITIC SOIL, PONDEROSA PINE ZONE."

Information source: SHELLY, J. S. 1989. [FIELD SURVEYS IN RAVALLI COUNTY, 26-29 JUNE (PENSTEMON LEMHIENSIS).]

Specimens: SHELLY, J. S. (1565) AND A. KRATZ. 1989.  
WRIGHT, J. C. (S.N.), 1952. MONT.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.005

Element occurrence type:

Survey site name: BADGER PASS  
EO rank: B

O rank comments: LARGE POPULATION, MOSTLY NATIVE HABITAT, FENCE EXCLOSURE.

County: BEAVERHEAD

SGS quadrangle: BANNACK

Township: Range: Section: TRS comments:  
07S 011W 22 N2NW4

Precision: S

Survey date: 1986-06-20 Elevation: 7260 -

First observation: 1972-06-27 Slope/aspect: 35% / SW, E-NE

Last observation: 1989-06-14 Size (acres): 10

Location:

1.45 AIR MILES SSE. OF BADGER PASS, ADJACENT TO MICROWAVE TOWER ON GRAVEL ROAD 1.3 AIR MI. S. OF BIG HOLE ROAD (ST. HWY. 278), CA. 4.5 AIR MI. NNE. OF BANNACK.

Element occurrence data:

1989: VERY FEW PLANTS OBSERVED, AND NONE FOUND INSIDE EXCLOSURE. 1986: 190 PLANTS COUNTED; CA. 75 PLANTS ARE WITHIN A FENCE EXCLOSURE WHICH WAS CONSTRUCTED TO PROTECT PART OF THE POPULATION. 1972: SCARCE.

General site description:

GRAVELLY LOAM SOILS, MIDSLOPE; ARTEMISIA TRIDENTATA/ PSEUDOTSUGA MENZIESII/FESTUCA IDAHOENSIS/AGROPYRON SPICATUM, LUPINUS LEUCOPHYLLUS, ANTEENNARIA MICROPHYLLA, GEUM, SEDUM, PINUS FLEXILIS, SELAGINELLA DENSA.

Land owner/manager:

BLM: BUTTE DISTRICT, DILLON RESOURCE AREA

Comments:

Information source: SHELLY, J. S. 1986. [FIELD SURVEYS IN BEAVERHEAD COUNTY OF 18-22 JUNE.]

Specimens: SHELLY, J. S. (1147) AND G.V. KING. 1986. MONTU.  
KOVALCHICK, B. L. (199). 1972. MRC.

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.006  
Element occurrence type:

Survey site name: BIG HOLE NATIONAL BATTLEFIELD  
EO rank: B  
EO rank comments: LARGE POPULATION; PORTION OF HABITAT RECENTLY  
BURNED.

County: BEAVERHEAD

USGS quadrangle: BIG HOLE BATTLEFIELD

Township: Range: Section: TRS comments:  
002S      017W      24      W2SE4; 13 SW4; 23 SE4

Precision: S  
Survey date: 1983-07-26      Elevation: 6320 -  
First observation: 1976      Slope/aspect:  
Last observation: 1992-07-13      Size (acres): 50

Location:

BIG HOLE NATIONAL BATTLEFIELD, 9 MILES WEST OF WISDOM ON HWY. 43.

Element occurrence data:

FOUR SUBPOPULATIONS, WITH 447 PLANTS (SOUTH OF "SIEGE AREA" AND  
ROADCUT ALONG SLOPE), "HUNDREDS" (NORTH OF "SIEGE AREA"), AND CA. 40  
BELOW VISITOR'S CENTER. 10 PLANTS LOCATED OUTSIDE BATTLEFIELD  
BOUNDARIES; 50% FLOWERING, 25% FRUITING, 25% VEGETATIVE.

General site description:

SAGEBRUSH STEPPE PORTION OF SOUTHEAST FACE OF BATTLE MOUNTAIN, AND ON  
NORTHWEST-FACING BENCHLAND BELOW VISITOR'S CENTER; ARTEMISIA  
TRIDENTATA/AGROPYRON SPICATUM/FESTUCA IDAHOENSIS.

Land owner/manager:

BIG HOLE NATIONAL BATTLEFIELD  
BEAVERHEAD NATIONAL FOREST, WISDOM RANGER DISTRICT

Comments:

SITE REVISITED AND NEW SUBPOPULATION LOCATED OUTSIDE BATTLEFIELD  
BOUNDARIES IN 1992 BY QUINN CARVER.

Information source: PIERCE, JOHN. USFS, REGION 1, RAWE, FEDERAL  
BUILDING, 200 EAST BROADWAY, P.O. BOX 7669,  
MISSOULA, MT 59807. 406/329-3390.

Specimens: HITCHCOCK (19189). NO DATE. WTU.  
WATSON, T. J. (1271). 1976. SPECIMEN #093357. MONTU.  
PIERCE, J. (798). 1980. SPECIMEN #86884. MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: *PENSTEMON LEMHIENSIS*  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.007  
Element occurrence type:

Survey site name: MEDICINE TREE CREEK  
EO rank: D  
EO rank comments: VERY SMALL POPULATION, MOSTLY ON ROADSIDE, WEEDY AREA.

County: RAVALLI

USGS quadrangle: ROBBINS GULCH

Township: Range: Section: TRS comments:  
002N      020W      21      NE4SE4, SW4NE4

Precision: S  
Survey date: 1989-06-29      Elevation: 4150 -  
First observation: 1950      Slope/aspect: 8-35% / S,SW  
Last observation: 1989-06-29      Size (acres): 2

Location:

EAST FORK BITTERROOT RIVER DRAINAGE, NORTH SIDE OF U.S. HWY. 93, 0.1 MI. WEST OF MEDICINE TREE CREEK, AND 0.3 AIR MI. NORTHWEST OF HWY. BRIDGE OVER CREEK, CA. 2.5 MILES SOUTHEAST OF CONNER.

Element occurrence data:

10 PLANTS OBSERVED, 7 ON ROADCUT, 3 ON SLOPES ABOVE.

General site description:

GRANITIC, GRAVELLY TO SANDY LOAM SOILS, ON ROADCUT AND WEEDY SLOPES; *PINUS PONDEROSA/PURSHIA TRIDENTATA* HABITAT, WITH *CENTAUREA MACULOSA*, *BROMUS TECTORUM*, *KOELERIA CRISTATA*, *BALSAMORHIZA SAGITTATA*, *PHACELIA LINEARIS*, *P. HETEROPHYLLA*, *PHYSARIA GEYERI*, *ALYSSUM ALYSSOIDES*, *AGROPYRON SPICATUM*, *VERBASCUM THAPSUS*, *ARABIS HOLBOELLII*.

Land owner/manager:

PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

POSSIBLE RELOCATION OF MCCALL, 1950: "BETWEEN CONNER AND SULA, ON ROCKY HILLSIDE ABOVE RIVER."

Information source: SHELLY, J. S. 1989. [FIELD SURVEYS IN RAVALLI COUNTY, 26-29 JUNE (*PENSTEMON LEMHIENSIS*) .]

Specimens: SHELLY, J. S. (1568) AND A. KRATZ. 1989.  
MCCALL, T. G. & V. C. (352). 1950. SPECIMEN #49394.  
MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.008  
Element occurrence type:

Survey site name: JOHNSON GULCH  
EO rank:  
EO rank comments:

County: BEAVERHEAD

USGS quadrangle: DEER CANYON

Township: Range: Section: TRS comments:  
011S 011W 18 SE4

Precision: M  
Survey date: 1984-07-06 Elevation: 6500 -  
First observation: 1984 Slope/aspect:  
Last observation: 1984-07-06 Size (acres): 0

Location:

NORTH SIDE OF JOHNSON GULCH, ALONG THE ROAD CA. 10 MI. SE. OF GRANT.

Element occurrence data:

ONE PLANT (SPECIMEN IS ONE TOPSNATCHED STEM).

General site description:

SILTY SOIL OF A BENCH; WITH ARTEMISIA TRIDENTATA AND AGROPYRON SPICATUM.

Land owner/manager:

BLM: BUTTE DISTRICT, DILLON RESOURCE AREA

Comments:

Information source: LESICA, PETER. DIVISION OF BIOLOGICAL SCIENCES,  
UNIVERSITY OF MONTANA, MISSOULA, MT 59812. PHONE  
406/728-8740.

Specimens: LESICA, P. (3110). 1984. SPECIMEN #06215. MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.009

Element occurrence type:

Survey site name: FRENCH CREEK

EO rank: B

Rank comments: LARGE POPULATION; NATIVE HABITAT, BUT NEAR ROAD  
AND MINES.

County: BEAVERHEAD

SGS quadrangle: ERMONT

Township: Range: Section: TRS comments:  
06S 011W 11 E2; 14 NE4NW4; 02 SE4SE4; 01 W2SW4

Precision: S

Survey date: 1986-06-19 Elevation: 7000 -

First observation: 1986 Slope/aspect:

Last observation: 1989-07-27 Size (acres): 40

Location:

PIONEER MOUNTAINS, SLOPES ALONG WEST SIDE OF FRENCH CREEK, ALONG THE  
FRENCH CREEK-THIEF CREEK ROAD (FS RD 606), 4 AIR MILES NORTHWEST OF  
ARGENTA; ALSO, MOUTH OF RED GULCH.

Element occurrence data:

138 PLANTS COUNTED (CA. 150 TOTAL) IN MAIN POPULATION, WITH 22 PLANTS  
COUNTED IN SUBPOPULATION AT THE MOUTH OF RED GULCH (1986); 1845  
PLANTS, IN 13 SUBPOPULATIONS, COUNTED IN 1988 (K. SCOW); AREA SUBJECT  
TO MINING DISTURBANCE; TWO MONITORING TRANSECTS ESTABLISHED IN 1989.

General site description:

STEEP, E. & SE.-FACING SLOPES, IN GRAVELLY LOAM SOILS; ARTEMISIA  
TRIDENTATA/FESTUCA IDAHOENSIS/AGROPYRON SPICATUM, WITH JUNIPERUS  
SCOPULORUM, PSEUDOTSUGA MENZIESII, ARTEMISIA FRIGIDA.

Land owner/manager:

BEAVERHEAD NATIONAL FOREST, DILLON RANGER DISTRICT

Comments:

Information source: SHELLY, J. S. 1986. [FIELD SURVEYS IN BEAVERHEAD  
COUNTY OF 18-22 JUNE.]

Specimens: SHELLY, J. S. (1130) AND G. V. KING. 1986. MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.010  
Element occurrence type:

Survey site name: QUARTZ HILL GULCH  
EO rank: B  
EO rank comments: GOOD POPULATION, MOSTLY IN NATIVE HABITAT; SOME ALONG ROAD.

County: BEAVERHEAD

USGS quadrangle: VIPOND PARK

Township: Range: Section: TRS comments:  
001S      011W      26      E2SE4

Precision: S  
Survey date: 1986-07-08      Elevation: 8000 -  
First observation: 1986      Slope/aspect:  
Last observation: 1986-07-08      Size (acres): 15

Location:

HEAD OF QUARTZ HILL GULCH, ALONG BEAVERHEAD N.F. RD. 187; 0.7 AIR MILES ENE. OF GRAY JOCKEY PEAK, CA. 5 AIR MI. SSE. OF WISE RIVER, PIONEER MOUNTAINS.

Element occurrence data:

203 PLANTS COUNTED, IN FLOWER; NEARBY AREAS SUBJECT TO MINING DISTURBANCE.

General site description:

EAST-FACING SLOPE, ON CLAY LOAM SOILS; OPENINGS IN PINUS CONTORTA/PSEUDOTSUGA MENZIESII FOREST, WITH JUNIPERUS COMMUNIS, TOWNSENDIA PARRYI, PEDICULARIS CONTORTA.

Land owner/manager:

BEAVERHEAD NATIONAL FOREST, WISE RIVER RANGER DISTRICT

Comments:

Information source: SHELLY, J. S. 1986. [FIELD SURVEYS IN BEAVERHEAD COUNTY OF 8-9 JULY.]

Specimens: SHELLY, J. S. (1192). 1986. MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.011  
Element occurrence type:

Survey site name: ECHO GULCH  
EO rank: AB  
EO rank comments: LARGE POPULATION, MOSTLY IN UNDISTURBED HABITAT.

County: BEAVERHEAD

USGS quadrangle: VIPOND PARK

Township: Range: Section: TRS comments:  
001S        011W        36        W2; 35 E2SE4

Precision: S  
Survey date: 1986-07-08      Elevation: 8100 -  
First observation: 1986      Slope/aspect:  
Last observation: 1986-07-08      Size (acres): 45

Location:

NEAR HEAD OF ECHO GULCH, SLOPES 0-0.5 AIR MILE NORTH OF VIPOND PARK,  
ALONG BEAVERHEAD N.F. ROAD 187; 0.5-0.75 AIR MILE WEST AND SOUTHWEST  
OF QUARTZ HILL, PIONEER MOUNTAINS.

Element occurrence data:

252 PLANTS COUNTED IN SOUTH SUBPOPULATION, 100-150 PLANTS IN NORTH  
SUBPOPULATION; IN FLOWER; MINING TEST PITS OBSERVED NEAR NORTH  
SUBPOPULATION.

General site description:

SOUTH AND EAST-FACING SLOPES, ON GRAVELLY SILT LOAM SOILS; PINUS  
CONTORTA/GRASSLAND, WITH PEDICULARIS CONTORTA, TOWNSENDIA PARRYI,  
ANTENNARIA MICROPHYLLA, FESTUCA IDAHOENSIS.

and owner/manager:

BEAVERHEAD NATIONAL FOREST, WISE RIVER RANGER DISTRICT

Comments:

AREA NEEDS ADDITIONAL SURVEY.

Information source: SHELLY, J. S. 1986. [FIELD SURVEYS IN BEAVERHEAD  
COUNTY OF 8-9 JULY.]

Specimens: SHELLY, J. S. (1199). 1986. MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.012  
Element occurrence type:

Survey site name: RED BUTTE  
EO rank: B  
EO rank comments: MODERATE-SIZED POPULATION; HABITAT IN GOOD  
CONDITION.

County: BEAVERHEAD

USGS quadrangle: ERMONT

Township: Range: Section: TRS comments:  
006S      011W      15      NE4; 10 S2

Precision: S  
Survey date: 1986-06-19      Elevation: 6800 -  
First observation: 1986      Slope/aspect:  
Last observation: 1989-07-27      Size (acres): 20

Location:

CA. 4.5 AIR MI. NW. OF ARGENTA, CENTERED 0.5 AIR MI. ESE. OF RED  
BUTTE, RATTLESNAKE CREEK DRAINAGE CA. 1 MI. SE. OF KELLY RESERVOIR,  
PIONEER MOUNTAINS.

Element occurrence data:

142 PLANTS COUNTED IN MAIN SUBPOPULATION (CENTRUM), 169 TOTAL, 3  
SUBPOPULATIONS (1986); NO PLANTS OBSERVED IN MAIN SUBPOPULATION IN  
1988 (K. SCOW), AND ONLY CA. 12 IN 1989 (SHELLY); MAIN POPULATION  
NEAR, BUT NOT RIGHT ALONG, A LIGHTLY-USED GRAVEL ROAD.

General site description:

S. AND SW.-FACING SLOPES, LOAMY SOILS; ARTEMISIA TRIDENTATA/ FESTUCA  
IDAHOENSIS/AGROPYRON SPICATUM, WITH SENECIO CANUS, PHACELIA LINEARIS,  
KOELERIA MACRANTHA, PSME.

Land owner/manager:

BEAVERHEAD NATIONAL FOREST, DILLON RANGER DISTRICT

Comments:

Information source: SHELLY, J. S. 1986. [FIELD SURVEYS IN BEAVERHEAD  
COUNTY OF 18-22 JUNE.]

Specimens: SHELLY, J. S. (1133) AND G. V. KING. 1986. MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.013  
Element occurrence type:

Survey site name: BLACK MOUNTAIN ROAD  
EO rank: C  
EO rank comments: SMALLER POPULATION, MANY PLANTS ON ROADSIDE.

County: BEAVERHEAD

USGS quadrangle: ERMONT

Township: Range: Section: TRS comments:  
006S 011W 21 W2SE4NE4; 20 SE4SE4

Precision: S  
Survey date: 1986-06-20 Elevation: 7200 -  
First observation: 1986 Slope/aspect:  
Last observation: 1986-06-20 Size (acres): 20

Location:

CA. 5 AIR MI WNW. OF ARGENTA, ALONG BLACK MOUNTAIN ROAD (BEAVERHEAD  
N.F. RD. #2400) CA. 3 AIR MI. SSE. OF BLACK MOUNTAIN, PIONEER  
MOUNTAINS.

Element occurrence data:

CA. 100-125 PLANTS TOTAL, MAINLY IN TWO SUBPOPULATIONS AND SCATTERED  
ALONG ROADSIDE; IN FLOWER.

General site description:

EAST AND SE.-FACING SLOPES, RED-COLORED LOAM SOILS; ARTEMISIA  
TRIDENTATA/FESTUCA IDAHOENSIS, WITH PHACELIA LINEARIS, ERIOGONUM,  
ASTER, BERBERIS.

Land owner/manager:

BEAVERHEAD NATIONAL FOREST, DILLON RANGER DISTRICT

Comments:

Information source: SHELLY, J. S. 1986. [FIELD SURVEYS IN BEAVERHEAD  
COUNTY OF 18-22 JUNE.]

Specimens: SHELLY, J. S. (1142) AND G. V. KING. 1986. MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.014  
Element occurrence type:

Survey site name: ERMONT GULCH  
EO rank: C

EO rank comments: SMALL POPULATION, NATIVE HABITAT IMPACTED BY GRAZING.

County: BEAVERHEAD

USGS quadrangle: ERMONT

Township: Range: Section: TRS comments:  
006S      011W      33      NE4SE4; 34 W2

Precision: S

Survey date: 1986-06-20      Elevation: 6740 -  
First observation: 1986      Slope/aspect:  
Last observation: 1989-07-27      Size (acres): 5

Location:

CA 4.3 AIR MI. WSW. OF ARGENTA, ALONG BEAVERHEAD N.F. RD. #7467 AT HEAD OF ERMONT GULCH, CA. 2.2 AIR MI. N. OF BADGER PASS, PIONEER MOUNTAINS.

Element occurrence data:

76 PLANTS COUNTED (1986); ONLY ONE PLANT SEEN IN 1989; AREA SUBJECT TO MODERATE TO HEAVY GRAZING.

General site description:

SE-FACING SLOPE, LOAM SOILS; ARTEMISIA TRIDENTATA/FESTUCA IDHOENSIS, ANTENNARIA MICROPHYLLA, KOELERIA MACRANTHA, COMANDRA UMBELLATA, ERIOGONUM.

and owner/manager:

BEAVERHEAD NATIONAL FOREST, DILLON RANGER DISTRICT  
BLM: BUTTE DISTRICT, DILLON RESOURCE AREA

Comments:

Information source: SHELLY, J. S. 1986. [FIELD SURVEYS IN BEAVERHEAD COUNTY OF 18-22 JUNE.]

Specimens: SHELLY, J. S. (1146) AND G. V. KING. 1986. MONTU.

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.015

Element occurrence type:

Survey site name: ROBERTS GULCH

EO rank: B

EO rank comments: SMALL POPULATION, NATIVE HABITAT IN GOOD CONDITION.

County: BEAVERHEAD

USGS quadrangle: COYOTE CREEK

Township: Range: Section: TRS comments:  
009S      014W      33      N2SE4

Precision: S

Survey date: 1986-06-22      Elevation: 6520 -

First observation: 1986      Slope/aspect:

Last observation: 1994-06-28      Size (acres): 5

Location:

MOUTH OF ROBERTS GULCH, CA. 1 AIR MI. NW. OF BLOODY DICK CREEK, CA.  
12.5 AIR MI. WEST OF GRANT AND 6.5 AIR MI. ENE. OF LEMHI PASS.

Element occurrence data:

54 PLANTS COUNTED; IN FLOWER. 1994: 9 PLANTS IN FLOWER, EARLY FRUIT, 6  
PLANTS VEGETATIVE, SEEDLINGS NOT SEARCHED FOR.

General site description:

EAST-FACING SLOPE ALONG SMALL DRAINAGE, LOAM SOILS. HABITAT RELATIVELY UNDISTURBED, SOME GRAZING USE. ASSOCIATED SPECIES: ARTEMISIA TRIDENTATA/AGROPYRON SPICATUM, CHRYSOTHAMNUS VISCIDIFLORUS, ARTEMISIA FRIGIDA, LUPINUS, ANTENNARIA.

Land owner/manager:

BLM: BUTTE DISTRICT, DILLON RESOURCE AREA

Comments:

Information source: SHELLY, J. S. 1986. [FIELD SURVEYS IN BEAVERHEAD COUNTY OF 18-22 JUNE.]

Specimens: SHELLY, J. S. (1156) AND G. V. KING. 1986. MONTU.

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.016  
Element occurrence type:

Survey site name: TRAPPER CREEK  
EO rank: D  
EO rank comments: SMALL, VULNERABLE ROADSIDE POPULATION.

County: BEAVERHEAD

USGS quadrangle: CATTLE GULCH

Township: Range: Section: TRS comments:  
002S      010W      20      W2SE4; 29 NW4NW4

Precision: S  
Survey date: 1987-06-16      Elevation: 6800 - 7040  
First observation: 1987-06-16      Slope/aspect:  
Last observation: 1992-07-10      Size (acres): 5

Location:

PIONEER MOUNTAINS, TRAPPER CREEK DRAINAGE, ALONG BEAVERHEAD N.F. RD.  
#188; ABOUT 10 MILES WEST OF MELROSE; ABOUT 1 AIR MILE SSE. OF ORE  
CAMP HILL.

Element occurrence data:

1992: 8-10 PLANTS, ALL ROBUST, TALL AND FLOWERING. 1987: 18 PLANTS  
COUNTED; FLOWERING; POPULATION OCCURS RIGHT ALONG ROADSIDE.

General site description:

GRAVELLY LOAM SOILS, ON ROADSIDE; ARTEMISIA TRIDENTATA/ AGROPYRON  
SPICATUM/FESTUCA IDAHOENSIS, GERANIUM VISCOISSIMUM, ERIOGONUM  
UMBELLATUM, ANTENNARIA ROSEA, FRAGARIA VIRGINIANA, GEUM TRIFLORUM.

Land owner/manager:

BEAVERHEAD NATIONAL FOREST, WISE RIVER RANGER DISTRICT

Comments:

SOUTHERN SUBPOPULATION LOCATED IN 1992 BY D. SVOBODA.

Information source: SHELLY, J. S. 1987. [FIELD SURVEYS IN BEAVERHEAD  
COUNTY OF 16-19 JUNE.]

Specimens: SHELLY, J. S. (1335). 1987. MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.017  
Element occurrence type:

Survey site name: BROWNES LAKE  
EO rank: D  
EO rank comments: SMALL POPULATION; PARTIALLY ALONG ROADSIDE.

County: BEAVERHEAD

USGS quadrangle: STORM PEAK

Township: Range: Section: TRS comments:  
003S 010W 34 S2SW4

Precision: S  
Survey date: 1987-06-17 Elevation: 6650 -  
First observation: 1987 Slope/aspect:  
Last observation: 1987-06-17 Size (acres): 1

Location:

PIONEER MOUNTAINS, ROCK CREEK DRAINAGE, ALONG ROCK CREEK ROAD ABOUT 6  
MILES WEST OF I-15, NEAR WEST END OF BROWNES LAKE.

Element occurrence data:

ONLY 4 PLANTS SEEN, 2 ON ROADSIDE AND 2 ON NATURAL SLOPE ABOVE ROAD.

General site description:

GRAVELLY LOAM SOILS, ON ROADSIDE AND SLOPE ABOVE ROAD; PSEUDOTSUGA  
MENZIESII/AGROPYRON SPICATUM, WITH CERCOCARPUS MONTANUS, SENECIO  
CANUS, PENSTEMON ARIDUS.

Land owner/manager:

BEAVERHEAD NATIONAL FOREST, DILLON RANGER DISTRICT  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

Information source: SHELLY, J. S. 1987. [FIELD SURVEYS IN BEAVERHEAD  
COUNTY OF 16-19 JUNE.]

Specimens: SHELLY, J. S. (1339). 1987. MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.018  
Element occurrence type:

Survey site name: KEARNS CREEK  
EO rank: C  
EO rank comments: SMALLER POPULATION; SOME MINING AND GRAZING  
NEARBY.

County: BEAVERHEAD

USGS quadrangle: ERMONT

Township: Range: Section: TRS comments:  
006S 011W 16 NE4; 15 N2SW4, S2NW4

Precision: S  
Survey date: 1987-06-17 Elevation: 6900 -  
First observation: 1987 Slope/aspect:  
Last observation: 1988 Size (acres): 5

Location:

PIONEER MOUNTAINS, KEARNS CREEK, ADJACENT TO SILVER RULE MINE; ABOUT  
0.5 AIR MILE SOUTHWEST OF RED BUTTE; ABOUT 0.75 AIR MILE WEST OF  
RATTLESNAKE CREEK.

Element occurrence data:

52 PLANTS COUNTED, 4 SUBPOPULATIONS (1987); MOST ABUNDANT ON  
EAST-FACING SLOPE ALONG CREEK, ON GRAVELLY OPEN SLOPE; SOME GRAZING  
AND MINING ACTIVITY IN THE AREA; FIFTH SUBPOPULATION, CONTAINING 40  
PLANTS, LOCATED IN 1988 BY K. SCOW.

General site description:

GRAVELLY LOAM SOILS; ARTEMISIA TRIDENTATA/FESTUCA IDAHOENSIS, WITH  
SENECIO CANUS, BALSAMORHIZA SAGITTATA, HELIANTHELLA QUINQUENERVIS,  
LUPINUS SERICEUS, PSEUDOTSUGA MENZIESII, PINUS CONTORTA.

Land owner/manager:

BEAVERHEAD NATIONAL FOREST, DILLON RANGER DISTRICT  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

Information source: SHELLY, J. S. 1987. [FIELD SURVEYS IN BEAVERHEAD  
COUNTY OF 16-19 JUNE.]

Specimens: SHELLY, J. S. (1342). 1987. MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: *PENSTEMON LEMHIENSIS*  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.019  
Element occurrence type:

Survey site name: BADGER PASS NORTH  
EO rank: B  
EO rank comments: MODERATE-SIZED POPULATION; FAIR TO GOOD CONDITION  
RANGELAND.

County: BEAVERHEAD

SGS quadrangle: BANNACK

Township: Range: Section: TRS comments:  
07S 011W 09 NE4NE4; 10 NW4; 3 SW4

Precision: S  
Survey date: 1987-06-18 Elevation: 6980 -  
First observation: 1987 Slope/aspect:  
Last observation: 1989-07-28 Size (acres): 4

Location:

SOUTHERN PIONEER MOUNTAINS, 0.7-1.2 AIR MILES NNE. OF BADGER PASS;  
ABOUT 15 AIR MILES WEST OF DILLON.

Element occurrence data:

ABOUT 200 PLANTS COUNTED, POPULATION = EST. 300+ PLANTS, 3  
SUBPOPULATIONS OBSERVED; FLOWERING; NUMEROUS PLANTS GROWING THROUGH  
BRANCHES OF SAGEBRUSH SHRUBS; AREA IS LIGHTLY TO MODERATELY GRAZED;  
PERMANENT MONITORING TRANSECT ESTABLISHED IN 1989.

General site description:

BROWN LOAM SOILS; ARTEMISIA TRIDENTATA/FESTUCA IDAHOENSIS, WITH  
PSEUDOTSUGA MENZIESII, BALSAMORHIZA SAGITTATA, LUPINUS SERICEUS,  
ANTENNARIA MICROPHYLLA, ASTER STENOMERES.

Land owner/manager:

BEAVERHEAD NATIONAL FOREST, DILLON RANGER DISTRICT

Comments:

Information source: SHELLY, J. S. 1987. [FIELD SURVEYS IN BEAVERHEAD  
COUNTY OF 16-19 JUNE.]

Specimens: SHELLY, J. S. (1343). 1987. MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.020  
Element occurrence type:

Survey site name: SELWAY CREEK  
EO rank: D  
EO rank comments: VERY SMALL POPULATION; NATIVE HABITAT, SOME  
GRAZING IMPACTS.

County: BEAVERHEAD

SGS quadrangle: KITTY CREEK

Township: Range: Section: TRS comments:  
008S      015W      27      SW4NE4

Precision: S  
Survey date: 1989-06-29      Elevation: 7200 -  
First observation: 1987      Slope/aspect: 20-30% / EAST  
Last observation: 1989-06-29      Size (acres): 1

Location:

BLOODY DICK CREEK DRAINAGE, SLOPES ABOVE SELWAY CREEK, ABOUT 2 MILES  
SOUTHEAST OF RESERVOIR LAKE; ABOUT 4 MILES EAST OF MONTANA-IDAHO STATE  
LINE.

lement occurrence data:

SIX PLANTS OBSERVED, IN 2 CLUMPS (19 JUNE 1987); FLOWERING; PLANTS  
ASSOCIATED WITH STEEP ROCK OUTCROP AREAS, AND NOT OBSERVED IN DENSER  
SURROUNDING VEGETATION. 10 PLANTS OBSERVED IN 1989.

eneral site description:

ROCK OUTCROPS; ARTEMISIA TRIDENTATA/FESTUCA IDAHOENSIS, WITH ERIOGONUM  
UMBELLATUM, PHACELIA FRANKLINII, SEDUM LANCEOLATUM, LUPINUS SERICEUS,  
PSEUDOTSUGA MENZIESII, PICO.

Land owner/manager:

BEAVERHEAD NATIONAL FOREST, DILLON RANGER DISTRICT

Comments:

ALSO SURVEYED BY J. S. SHELLY, 16-19 JUNE 1987.

Information source: SCHASSBERGER, L. A. 1989. [MTNHP FIELD SURVEYS OF  
SOUTHWEST MONTANA, 26-30 JUNE (PENSTEMON  
LEMHIENSIS).]

Specimens: SHELLY, J. S. (1344). 1987. MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.021

Element occurrence type:

Survey site name: WEST OF BIG HOLE BATTLEFIELD  
EO rank:

FO rank comments:

County: BEAVERHEAD

SGS quadrangle: UNMAPPABLE

Township: Range: Section: TRS comments:

Precision: U  
Survey date: 1947-07-23 Elevation: 5000 -  
First observation: 1947 Slope/aspect:  
Last observation: 1947-07-23 Size (acres): 0

Location:

WEST OF BIG HOLE BATTLEFIELD (HISTORICAL COLLECTION).

Element occurrence data:

UNKNOWN; MAY POSSIBLY HAVE BEEN FROM JUST OUTSIDE WESTERN BOUNDARY OF  
BIG HOLE BATTLEFIELD, IN AREA THAT IS NOW DISTURBED BY GRAZING (1986);  
ELEVATION GIVEN IS LOWER THAN PRESENT IN AREA.

General site description:

SAGEBRUSH AREA.

Land owner/manager:

Comments:

SPECIMEN DETERMINED BY D. KECK; FIRST MONTANA RECORD.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515  
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens: ROSE, F. H. (3502). 1947. SPECIMEN #092520. MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.022

Element occurrence type:

Survey site name: MEDICINE LODGE CREEK

EO rank:

D rank comments:

County: BEAVERHEAD

SGS quadrangle: TEPEE MOUNTAIN

Township: Range: Section: TRS comments:  
013S 012W 03 SE4NE4, NE4SE4

Precision: S  
Survey date: 1987- - Elevation: 6970 -  
First observation: 1987 Slope/aspect:  
Last observation: 1987- - Size (acres): 20

Location:

MEDICINE LODGE CREEK DRAINAGE, 0.15 AIR MILES WNW OF CONFLUENCE OF  
MEDICINE LODGE AND HILDRETH CREEKS, CA. 19 AIR MILES SOUTH OF GRANT.

Element occurrence data:

UNKNOWN; POPULATION REPORTED TO BE LARGE BY J. CHRISTENSEN.

General site description:

UNKNOWN; SPECIES OFTEN OCCURS IN SAGEBRUSH/BUNCHGRASS HABITATS AT  
HIGHER ELEVATIONS.

Land owner/manager:

PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

SITE REPORTED BY J. CHRISTENSEN, BEAVERHEAD NATIONAL FOREST;  
IDENTIFICATION UNCERTAIN - DURING SURVEYS IN 1989, ONLY P. RADICOSUS  
WAS FOUND IN THE AREA (SCHASSBERGER).

Information source: CHRISTENSEN, JIM. BEAVERHEAD NATIONAL FOREST,  
DILLON RANGER DISTRICT, 420 BARRETT STREET,  
DILLON, MT 59725-3572. PHONE: 406/683-3959.

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.023  
Element occurrence type:

Survey site name: MINER CREEK  
EO rank: C  
EO rank comments: HEAVILY GRAZED, INVASIVE WEEDS.

County: BEAVERHEAD

USGS quadrangle: MINER LAKE

Township: Range: Section: TRS comments:  
006S      016W      02      SE4

Precision: S  
Survey date: 1989-06-30      Elevation: 7080 -  
First observation: 1989      Slope/aspect: 3-15% / ESE  
Last observation: 1989-06-30      Size (acres): 10

Location:

BIGHOLE VALLEY, CA. 6 MILES SOUTHWEST OF JACKSON, NORTH OF F.S. ROAD  
182.

Element occurrence data:  
UNCOMMON, 17 PLANTS IN 1989.

General site description:

SAGEBRUSH GRASSLAND WITH SPERGULA ARVENSIS, ERIOGONUM UMBELLATUM,  
CAREX FILIFOLIA, LUPINUS SERICEUS.

Land owner/manager:  
BEAVERHEAD NATIONAL FOREST, WISDOM RANGER DISTRICT

Comments:

Information source: SCHASSBERGER, L. A. 1989. [MTNHP FIELD SURVEYS OF  
SOUTHWEST MONTANA, 26-30 JUNE (PENSTEMON  
LEMHIENSIS).]

Specimens: SCHASSBERGER, L. S. (311). 1989. MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: *PENSTEMON LEMHIENSIS*  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.024

Element occurrence type:

Survey site name: FROG CREEK  
EO rank: C  
EO rank comments: SMALL POPULATION.

County: BEAVERHEAD

SGS quadrangle: COYOTE CREEK

Township: Range: Section: TRS comments:  
009S 014W 21 SW4

Precision: S  
Survey date: 1989-06-29 Elevation: 7200 - 7280  
First observation: 1989 Slope/aspect: 8-15% / EAST  
Last observation: 1990-07-10 Size (acres): 1

Location:

HORSE PRAIRIE, CA. 1 MILE NORTHWEST OF HORSE PRAIRIE GUARD STATION,  
ALONG FROG CREEK

Element occurrence data:

1990: 17 GENETS; PLANTS MOSTLY BLOOMING OR BROWSED; FEW SEEDLINGS WERE  
OBSERVED. 1989: 26 PLANTS.

General site description:

ON ROADSIDE EMBANKMENT WITH *BALSAMORHIZA SAGITTATA*, *ARTEMISIA TRIDENTATA*, *AGOPYRON SPICATUM*, *SEDUM SP.*, *POTENTILL GRACILIS*, *ARTEMISIA TRIPARTITA*, *ACHILLEA MILLEFOLIUM*, *PENSTEMON ARIDIS*, *CASTILLEJA PALlescens*, *FESTUCA IDAHOENSIS* AND *FRAGARIA VESCA*.

and owner/manager:

PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

BLM: BUTTE DISTRICT, DILLON RESOURCE AREA

Comments:

16 OF 17 PLANTS GROWING IN ROADCUT. POPULATION COULD BE ELIMINATED  
THROUGH ROAD MAINTENANCE, SPRAY AND WILDFLOWER PICKERS. 1994-06-28:  
JIM VANDERHORST SEARCHED FOR POPULATION BUT NO PLANTS WERE FOUND.

Information source: SCHASSBERGER, L. A. 1989. [MTNHP FIELD SURVEYS OF  
SOUTHWEST MONTANA, 26-30 JUNE (*PENSTEMON LEMHIENSIS*).]

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.025  
Element occurrence type:

Survey site name: BRISTON LANE  
EO rank: A  
EO rank comments: LARGE POPULATION.

County: BEAVERHEAD

USGS quadrangle: HIGHLAND RANCH

Township: Range: Section: TRS comments:  
003S      016W      35      NE4, S2

Precision: S  
Survey date: 1989-06-30      Elevation: 6260 -  
First observation: 1989      Slope/aspect: 8-15% / EAST  
Last observation: 1989-06-30      Size (acres): 10

Location:

CA. 5.5 MILES SSW OF WISDOM. CA. 3.5 MILES ALONG BRISTON LANE, JUST  
WEST OF THE ROAD.

Element occurrence data:  
110 PLANTS IN 1989.

General site description:

SITE WAS BURNED (SAGEBRUSH GONE) AND IS GRAZED. ASSOCIATED SPECIES  
INCLUDE AGROPYRON SPICATUM, STIPA COMATA, ERIOGONUM UMBELLATUM VAR  
SUBALPINUM, SEDUM LANCEOLATUM, GERANIUM VISCOISSIMUM AND SPERGULA  
ARVENSIS.

Land owner/manager:  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

BURNING AND GRAZING APPEARS TO HAVE IMPROVED THE HABITAT FOR P.  
LEMHIENSIS.

Information source: SCHASSBERGER, L. A. 1989. [MTNHP FIELD SURVEYS OF  
SOUTHWEST MONTANA, 26-30 JUNE (PENSTEMON  
LEMHIENSIS).]

Specimens:

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.026  
Element occurrence type:

Survey site name: SWAMP CREEK  
EO rank: D  
EO rank comments: AROUND CATTLE SALT LICK.

County: BEAVERHEAD

USGS quadrangle: HIGHLAND RANCH

Township: Range: Section: TRS comments:  
003S      016W      04      E2

Precision: S  
Survey date: 1989-06-30      Elevation: 6260 -  
First observation: 1989-06-30      Slope/aspect: 0-3% / SE  
Last observation: 1991-07-15      Size (acres): 3

Location:

BIGHOLE VALLEY, CA. 5.2 MILES WEST OF WISDOM, ALONG SWAMP CREEK ROAD,  
SOUTH OF ROAD.

Element occurrence data:

1991: 117 PLANTS, 95% IN BLOOM. 1989: 23 PLANTS.

General site description:

IN OPEN ROCKY GROUND, WITH ARTEMISIA TRIDENTATA, SEDUM LANCEOLATUM,  
ASTRAGALUS MISER, TARAXACUM OFFICINALE, STIPA COMATA, POA SECUNDA,  
CHRYSOTHANMUS VISCIDIFLORUS, AGROPYRON REPENS, AND LUPINUS ARGENTEUS.

Land owner/manager:

PRIVately OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

CATTLE DISTURBANCE AROUND SALT LICK APPEARS TO HAVE ENHANCED HABITAT  
FOR THIS SPECIES. RELOCATED IN 1991 BY QUINN CARVER. NO CATTLE  
DISTURBANCE MENTIONED IN 1991 SURVEY.

Information source: SENSITIVE PLANT COORDINATOR, BEAVERHEAD NATIONAL  
FOREST, 610 NORTH MONTANA STREET, DILLON, MT  
59725.

Specimens:

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.027  
Element occurrence type:

Survey site name: HORSE PRAIRIE GUARD STATION  
EO rank: D  
EO rank comments: VERY SMALL POPULATION.

County: BEAVERHEAD

USGS quadrangle: COYOTE CREEK

Township: Range: Section: TRS comments:  
009S      014W      27      NW4SW4

Precision: S  
Survey date: 1989-06-29      Elevation: 6690 -  
First observation: 1989      Slope/aspect: 3-8% / SOUTH  
Last observation: 1994-06-28      Size (acres): 1

Location:  
HORSE PRAIRIE, CA. 0.5 MILES SE OF HORSE PRAIRIE GUARD STATION.

Element occurrence data:  
ONLY 3 PLANTS, ON A ROADCUT.

General site description:  
ON ROADSIDE, WITH ARTEMISIA TRIDENTATA, BALSAMORHIZA SAGITTATA,  
CASTILLEJA PALLESCENS, FESTUCA IDAHOENSIS, AND FRAGARIA VESCA. 1994: 6  
PLANTS COUNTED ON ROADCUT, 7 PLANTS COUNTED IN SAGEBRUSH HABITAT ABOVE  
ROAD.

Land owner/manager:  
BLM: BUTTE DISTRICT, DILLON RESOURCE AREA

Comments:  
SEE BLM MONITORING TRANSECT DATA FOR MORE DETAILED DEMOGRAPHY OF  
ROADCUT POPULATION.

Information source: SCHASSBERGER, L. A. 1989. [MTNHP FIELD SURVEYS OF  
SOUTHWEST MONTANA, 26-30 JUNE (PENSTEMON  
LEMHIENSIS).]

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.028  
Element occurrence type:

Survey site name: BLOODY DICK CREEK I  
EO rank: C  
EO rank comments: ROADCUT POPULATION.

County: BEAVERHEAD

USGS quadrangle: COYOTE CREEK

Township: Range: Section: TRS comments:  
009S      014W      31      W2, SE4  
010S      014W      05      NE4

Precision: S  
Survey date: 1989-06-29      Elevation: 6600 -  
First observation: 1989      Slope/aspect: 0-3% / SW  
Last observation: 1989-06-29      Size (acres): 2

Location:

HORSE PRAIRIE, ALONG BLOODY DICK CREEK, CA. 7.1 MILES WEST OF RED BUTTE.

Element occurrence data:

34 PLANTS, FOUR SMALL SUBPOPULATIONS (1989).

General site description:

PLANTS ALONG ROADSIDE, WITH ARTEMISIA TRIPARTITA, FESTUCA IDAHOENSIS, AGROPYRON SPICATUM AND CASTILLEJA PALLESCENS.

Land owner/manager:

PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)  
BLM: BUTTE DISTRICT, DILLON RESOURCE AREA

Comments:

AREAS WHICH HAD FEW OR NO PLANTS IN 1988, HAD AS MANY AS 10-15 PLANTS IN 1989.

Information source: SCHASSBERGER, L. A. 1989. [MTNHP FIELD SURVEYS OF SOUTHWEST MONTANA, 26-30 JUNE (PENSTEMON LEMHIENSIS).]

Specimens:

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.029

Element occurrence type:

Survey site name: BLOODY DICK CREEK 2  
EO rank: C  
EO rank comments: SMALL POPULATION, CLOSE TO ROADWAY.

County: BEAVERHEAD

USGS quadrangle: EVERSON CREEK

Township: Range: Section: TRS comments:  
010S      014W      05      NW4; 4N2

Precision: S  
Survey date: 1989-06-29      Elevation: 6300 - 6400  
First observation: 1989-06-29      Slope/aspect: 0-8% / SW  
Last observation: 1993-06-28      Size (acres): 2

Location:

HORSE PRAIRIE, CA. 5.1 MILES WEST OF RED BUTTE, ALONG BLOODY DICK CREEK ROAD.

Element occurrence data:

1993: 3 SUBPOPULATIONS RELOCATED, ONLY 7 PLANTS SEEN IN 2; 19 PLANTS IN THIRD (EASTERNMOST) SUBPOPULATION; FLOWERING WITH IMMATURE FRUIT.  
1989: 22 PLANTS, FOUR SMALL SUBPOPULATIONS.

General site description:

ASSOCIATED SPECIES OBSERVED IN 1993: ERIOGONUM OVALIFOLIUM, CASTILLEJA PALlescens, E. UMBELLATUM, LUPINUS LEUCOPHYLLUS, PENSTEMON ARIDUS, HAPLOPAPPUS ACAULIS. 1989: ARTEMISIA TRIDENTATA, CASTILLEJA PALlescens, ORTHOCARPUS LUTEUS AND AGROPYRON SPICATUM.

Land owner/manager:

PRIVately OWNED LAND (INDIVIDUAL OR CORPORATE)  
BLM: BUTTE DISTRICT, DILLON RESOURCE AREA

Comments:

SITE REVISITED IN 1993 BY JIM VANDERHORST. OTHER KNOWN POPULATIONS ALONG THIS ROAD WERE SEARCHED FOR; SOME WERE FOUND BUT HAD FEWER PLANTS THAN IN 1989, OTHERS COULD NOT BE RELOCATED, SOME POPULATIONS INCREASED.

Information source: VANDERHORST, J. 1993. [MTNHP FIELD SURVEYS CONDUCTED AT LEMHI PASS FOR THE BUREAU OF LAND MANAGEMENT.]

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS

Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.030

Element occurrence type:

Survey site name: SPRING GULCH

EO rank: D

O rank comments: VERY SMALL POPULATION, WEEDY HABITAT.

County: RAVALLI

SGS quadrangle: ROBBINS GULCH

Township: Range: Section: TRS comments:

03N 020W 24 SE4SE4

Precision: S

Survey date: 1989-06-27 Elevation: 5200 -

First observation: 1989 Slope/aspect: 35%+ / SE

Last observation: 1989-06-27 Size (acres): 1

Location:

WESTERN FOOTHILLS OF SAPPHIRE MOUNTAINS, RYE CREEK DRAINAGE, SPRING GULCH, 1.15 AIR MILES NORTHEAST OF CONFLUENCE OF RYE CREEK AND NORTH FORK RYE CREEK, CA. 8 AIR MILES ESE OF DARBY.

Element occurrence data:

FOUR PLANTS OBSERVED; ONE FLOWERING, 3 STERILE ROSETTES. HABITAT SERIOUSLY AFFFFECTED BY KNAPOWEED INVASION.

General site description:

GRANITIC GRAVELLY LOAM SOILS; PURSHIA TRIDENTATA/AGROPYRON SPICATUM HABITAT, WITH CENTAUREA MACULOSA, BALSAMORHIZA SAGITTATA, BROMUS TECTORUM, KOELERIA CRISTATA, POA SECUNDA, ACHILLEA MILLEFOLIUM, DESCURAINIA RICHARDSONII, PHACELIA LINEARIS, LOMATIUM DISSECTUM, TRAGOPOGON DUBIUS.

Land owner/manager:

BITTERROOT NATIONAL FOREST, DARBY RANGER DISTRICT

Comments:

SIGHT RECORD, NO VOUCHER SPECIMEN COLLECTED; SITE SURVEYED WITH A. KRATZ, BITTERROOT NATIONAL FOREST.

Information source: SHELLY, J. S. 1989. [FIELD SURVEYS IN RAVALLI COUNTY, 26-29 JUNE (PENSTEMON LEMHIENSIS).]

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.031  
Element occurrence type:

Survey site name: ROBBINS GULCH  
EO rank: D  
EO rank comments: SMALL POPULATION, IN FAIRLY WEEDY AREA.

County: RAVALLI

USGS quadrangle: ROBBINS GULCH

Township: Range: Section: TRS comments:  
002N      020W      16      N2NW4; 09 SE4SW4

Precision: S  
Survey date: 1989-06-29      Elevation: 4500 -  
First observation: 1989      Slope/aspect: 8-35% / SE  
Last observation: 1989-06-29      Size (acres): 5

Location:

WESTERN FOOTHILLS OF SAPPHIRE MOUNTAINS, EAST FORK BITTERROOT RIVER  
DRAINAGE, ROBBINS GULCH, NORTH OF BITTERROOT N.F. RD. #446, CA. 1 MILE  
NORTHEAST OF U.S. HWY. 93.

Element occurrence data:

14 PLANTS OBSERVED, IN 5 SMALL COLONIES; 8 FLOWERING, 6 ROSETTES, ONE  
PLANT ON ROADSIDE.

General site description:

GRANITIC, SANDY TO GRAVELLY LOAM SOILS; PINUS PONDEROSA/PURSHIA  
TRIDENTATA HABITAT, WITH KOELERIA CRISTATA, CENTAUREA MACULOSA,  
AGROPYRON SPICATUM, BALSAMORHIZA SAGITTATA, PHACELIA LINEARIS, POA  
SECUNDA, ALYSSUM ALYSOIDES, LITHOSPERMUM RUDERALE, PENSTEMON  
ALBERTINUS.

Land owner/manager:

PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)  
BITTERROOT NATIONAL FOREST, DARBY RANGER DISTRICT

Comments:

Information source: SHELLY, J. S. 1989. [FIELD SURVEYS IN RAVALLI  
COUNTY, 26-29 JUNE (PENSTEMON LEMHIENSIS).]

Specimens: SHELLY, J. S. (1569) AND A. KRATZ. 1989.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.032  
Element occurrence type:

Survey site name: POLARIS  
EO rank:  
EO rank comments:

County: BEAVERHEAD

USGS quadrangle: ELKHORN HOT SPRINGS

Township: Range: Section: TRS comments:  
005S      012W      30      NE4NE4; 19 SE4SE4

Precision: S  
Survey date:                          Elevation: 6400 -  
First observation: 1989               Slope/aspect: 35% / EAST  
Last observation: 1989-06-28           Size (acres): 0

Location:

GRASSHOPPER CREEK RD., CA. 0.5 MILES NORTH OF POLARIS, CA. 0.1 MILE  
NORTH OF GRASSHOPPER CREEK CROSSING, IMMEDIATELY NORTH OF GRAVEL PIT.

Element occurrence data:  
POPULATION OF 50+ PLANTS IN 1989.

General site description:  
GROWING ON EAST-FACING ROADCUT IN ALLUVIUM WITH 50 PERCENT COARSE  
FRAGMENTS, WITH ARTEMISIA TRIDENTATA, CHRYSOTHAMNUS NAUSEOSUS,  
AGROPYRON SPICATUM, AND BROMUS TECTORUM.

Land owner/manager:  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:  
PLANTENBERG - "THE SITE WILL EVENTUALLY BE LOST TO KNAPWEED CONTROL -  
ACTIVE ROADCUT."

Information source: PLANTENBERG, PATRICK L. DEPARTMENT OF STATE LANDS,  
HARD ROCK BUREAU, RECLAMATION DIVISION, 1625 11TH  
AVENUE, HELENA, MT 59620-1601. 406/444-2074

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.033  
Element occurrence type:

Survey site name: SHALE CREEK

EO rank:

EO rank comments:

County: BEAVERHEAD

SGS quadrangle: ELKHORN HOT SPRINGS

Township: Range: Section: TRS comments:  
005S 012W 08 SW4SW4

Precision: S

Survey date: Elevation: 6560 -

First observation: 1989 Slope/aspect: 35% / EAST

Last observation: 1989-06-28 Size (acres): 0

Location:

GRASSHOPPER CREEK RD., CA. 2.5 MILES NORTH OF POLARIS, ON CREST OF HILL.

Element occurrence data:

POPULATION OF 2 PLANTS IN 1989.

General site description:

ON EAST FACING ROADCUT. IN DEEP LOAMY SOIL, WITH LESS THAN 5% COARSE FRAGMENTS, WITH ARTEMISIA TRIDENTATA, GUTIERREZIA SAROTHRAE, AGROPYRON SPICATUM, AND BROMUS TECTORUM.

Land owner/manager:

PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

PLANTENBERG - "SITE WILL EVENTUALLY BE ELIMINATED BY KNAPEWEED CONTROL - ACTIVE ROADCUT."

Information source: PLANTENBERG, PATRICK L. DEPARTMENT OF STATE LANDS, HARK ROCK BUREAU, RECLAMATION DIVISION, 1625 11TH AVENUE, HELENA, MT 59620-1601. 406/444-2074

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.034  
Element occurrence type:

Survey site name: BLOODY DICK CREEK III  
EO rank: B  
EO rank comments: CLOSE TO ROADWAYS, BUT LARGE POPULATIONS.

County: BEAVERHEAD

USGS quadrangle: KITTY CREEK

Township: Range: Section: TRS comments:  
009S      015W      25      SW4

Precision: S  
Survey date: 1989-06-29      Elevation: 6600 -  
First observation: 1989      Slope/aspect: 0-30% / SW  
Last observation: 1989-06-29      Size (acres): 15

Location:  
BLOODY DICK CREEK RD., CA. 0.75 MILE SOUTH OF EAST PETERSON CK.

Element occurrence data:  
74 PLANTS IN 3 SUBPOPULATIONS IN 1989.

General site description:  
SOUTHWEST SLOPE, WITH ARTEMISIA TRIPARTITA, FESTUCA IDAHOENSIS,  
AGROPYRON SPICATUM, AND CASTILLEJA PALLESCENS.

Land owner/manager:  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

Information source: SCHASSBERGER, L. A. 1989. [MTNHP FIELD SURVEYS OF  
SOUTHWEST MONTANA, 26-30 JUNE (PENSTEMON  
LEMHIENSIS).]

Specimens: SCHASSBERGER, L. A. (303). 1989.

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.035  
Element occurrence type:

Survey site name: DUTCH CREEK  
EO rank: C  
EO rank comments: SMALL ROADSIDE POPULATION.

County: BEAVERHEAD

USGS quadrangle: KITTY CREEK

Township: Range: Section: TRS comments:  
009S      015W      14      SW4; 23 NE4

Precision: S  
Survey date: 1989-06-29      Elevation: 6760 -  
First observation: 1989-06-29      Slope/aspect: 0-35% / SW  
Last observation: 1993-06-28      Size (acres): 12

Location:  
BLOODY DICK CREEK RD., CA. 0.25 MILE NORTH AND 0.3 MILE SOUTH OF DUTCH CREEK.

Element occurrence data:  
NO PLANTS FOUND IN 1993. CA. 30 PLANTS IN 2 SUBPOPULATIONS IN 1989.

General site description:  
ROADSIDE POPULATIONS IN ROCKY LOAM SOILS, WITH ARTEMISIA TRIDENTATA AND FESTUCA IDAHOENSIS.

Land owner/manager:  
BEAVERHEAD NATIONAL FOREST, DILLON RANGER DISTRICT  
BLM: BUTTE DISTRICT, DILLON RESOURCE AREA

Comments:  
NO PLANTS FOUND IN LOCATION BY VANDERHORST, 1993.

Information source: VANDERHORST, J. 1994. SURVEY FOR SENSITIVE PLANT SPECIES ON BLM LANDS IN THE VICINITY OF LEMHI PASS, BEAVERHEAD COUNTY. UNPUBLISHED REPORT TO THE BUTTE DISTRICT, BUREAU OF LAND MANAGEMENT. MONTANA NATURAL HERITAGE PROGRAM, HELENA. 5 PP. PLUS APPENDICES.

Specimens: SCHASSBERGER, L. A. (302). 1989.

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.036  
Element occurrence type:

Survey site name: BLANCHARD POND  
EO rank: D  
EO rank comments: POPULATION IN ROADCUT.

County: BEAVERHEAD

USGS quadrangle: JACKSON

Township: Range: Section: TRS comments:  
006S      015W      33      NE4SE4

Precision: S  
Survey date: 1989-06-30      Elevation: 6880 -  
First observation: 1989      Slope/aspect: 3-8% / EAST  
Last observation: 1992-07-20      Size (acres): 1

Location:  
BIG HOLE RIVER DRAINAGE, SKINNER MEADOWS RD., CA. 6.5 MILES SSW OF  
JACKSON.

Element occurrence data:  
2 SUBPOPULATIONS: SOUTHERN: (1992) 12 BASAL ROSETTES WITH 1 FLOWERING  
STEM. NORTHERN: (1989) 61 PLANTS COUNTED.

General site description:  
ON (ALLUVIAL) ROAD EMBANKMENT, WITH ARTEMISIA TRIDENTATA, ERIOGONUM  
UMBELLATUM VARIETIES SUBALPINUM AND INTECTUM, RIBES HENDERSONII,  
FRAGARIA VIRGINIANA, POA PRATENSIS, ACHILLEA MILLEFOIUM, AGROPYRON  
REPENS, POTENTILLA FRUTICOSA, FESTUCA IDAHOENSIS, ERIOPHYLLUM LANATUM.

Land owner/manager:  
PRIVately OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:  
1992: SOUTHERN POPULATION SURVEYED BY Q. CARVER. SPECIMEN TAKEN,  
COLLECTION #QC 006, BUT REPOSITORY UNKNOWN. 1989: POPULATION MAY BE  
DESTROYED THROUGH ROAD MAINTENANCE ACTIVITIES.

Information source: SCHASSBERGER, L. A. 1989. [MTNHP FIELD SURVEYS OF  
SOUTHWEST MONTANA, 26-30 JUNE (PENSTEMON  
LEMHIENSIS).]

Specimens: SCHASSBERGER, L. A. (309). 1989.

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.037  
Element occurrence type:

Survey site name: WOODS CREEK  
EO rank: D  
EO rank comments: SMALL POPULATION; HABITAT BADLY INFESTED WITH  
KNAPWEED.

County: RAVALLI

USGS quadrangle: ALTA

Township: Range: Section: TRS comments:  
003S      022W      20      NE4; 21 NW4

Precision: M  
Survey date: 1990-07-30      Elevation: 5360 -  
First observation: 1989      Slope/aspect: 20-30% / SOUTH; 60% / WEST  
Last observation: 1992-06-05      Size (acres): 2

Location:

BITTERROOT MOUNTAINS, WEST FORK BITTERROOT DRAINAGE, WOODS CREEK;  
NORTH SIDE OF BITTERROOT NF ROAD #5669, 0.6 MILE WEST OF JUNCTION WITH  
ROAD #91 (WEST FORK ROAD).

Element occurrence data:

1989: 7 PLANTS COUNTED. 1990: 24 PLANTS COUNTED, 10 FRUITING AND 5  
BASAL ROSETTES. SEVERAL PLANTS HAVE COLONIZED THE OPEN ROADBANK. IN  
1992, 57 PLANTS OBSERVED (3 FLOWERING).

General site description:

GRAVELLY LOAM SOILS, DRY EXPOSURE, AGROPYRON SPICATUM GRASSLAND, PINUS  
PONDEROSA/PSEUDOTSUGA MENZIESII ECOTONE. ASSOCIATED SPECIES: CENTAUREA  
MACULOSA, BALSAMORHIZA SAGITTATA, ACHILLEA MILLEFOLIUM, ERIOGONUM  
UMBELLATUM, FESTUCA IDAHOENSIS, GILIA AGGREGATA, BERBERIS REPENS,  
FRASERA ALBICAULIS, PHACELIA HASTATA, APOCYNUM ANDROSAEMIFOLIUM,  
PHYSARIA GEYERI.

Land owner/manager:

BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

Comments:

POPULATION OBSERVED BY J.S. SHELLY, W. ALBERT, K. LACKSCHEWITZ AND K.  
MCBRIDE. POPULATION FIRST LOCATED BY W. ALBERT IN 1989. SEE GMF FOR  
ADDITIONAL DETAIL ON 1992 SURVEY.

Information source: SHELLY, J. STEPHEN. USFS REGION 1, WLF, P.O. BOX  
7669, MISSOULA, MT 59807.

Specimens: ALBERT, W. E. (798). 1989. MRC.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.038  
Element occurrence type:

Survey site name: KILNS  
EO rank: A  
EO rank comments: GOOD POPULATION IN CURRENTLY UNDISTURBED HABITAT.

County: BEAVERHEAD

USGS quadrangle: CATTLE GULCH

Township: Range: Section: TRS comments:  
002S      010W      08      NE4NW4

Precision: S  
Survey date: 1990-06-29      Elevation: 7200 -  
First observation: 1990      Slope/aspect: 35-45% / SOUTH  
Last observation: 1990-06-29      Size (acres): 4

Location:  
ABOVE CANYON CREEK KILNS CA. 9 MILES WEST OF MELROSE.

Element occurrence data:  
CA. 65 PLANTS (29 JUNE 1990) IN FULL FLOWER.

General site description:

IN SLIGHTLY TALLER SAGEBRUSH STANDS WHERE SOILS ARE SOMEWHAT UNSTABLE  
AND TOTAL GRASS COVER IS LOW. ASSOCIATED SPECIES INCLUDE ARTEMISIA  
TRIDENTATA, CHRYSOTHAMNUS NAUSEOSUS, PHLOX LONGIFOLIA, ACHILLEA  
MILLEFOLIUM AND, SPARSELY, ARABIS FECUNDA.

Land owner/manager:  
BEAVERHEAD NATIONAL FOREST, WISE RIVER RANGER DISTRICT

Comments:

THIS SITE IS DIRECTLY BELOW THE LOG RAMP AT THE TOP OF THE HILL ABOVE  
THE KILNS. IT IS LIKELY THAT AT ONE TIME VEGETATION WAS SCOURED FROM  
THE HILLSIDE BY ROLLING LOGS.

Information source: ROE, LISA SCHASSBERGER. [BOTANIST.] 531 SPENCER,  
HELENA, MONTANA 59601.

Specimens: ROE, L. S. (390). 1990.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.040  
Element occurrence type:

Survey site name: ERMONT GULCH  
EO rank: B

EO rank comments: POSSIBLE THREATS FROM GRAZING OR COMPETITION.

County: BEAVERHEAD

USGS quadrangle: ERMONT

Ownership: Range: Section: TRS comments:  
006S 011W 27 SE4SW4

Precision: S  
Survey date: 1990-06-28 Elevation: 6800 -  
First observation: 1990 Slope/aspect: 8-15% / SOUTHEAST  
Last observation: 1990-06-28 Size (acres): 0

Location:

CA. 3.5 MILES WEST OF ARGENTA, JUST WEST OF FS ROAD #7467.

Element occurrence data:

2 BLOOMING PLANTS (28 JUNE 1990).

General site description:

ARTEMISIA TRIDENTATA/FESTUCA IDAHOENSIS COMMUNITY, WITH PENSTEMON ARIDUS, P. WHIPPLEANUS, P. RADICOSUS, KOELERIA CRISTATA, TARAXACUM OFFICINALE, PSEUDOTSUGA MENZIESII, SENECIO spp.

Land owner/manager:

BLM: BUTTE DISTRICT, DILLON RESOURCE AREA

Comments:

NONFLOWERING PLANTS NOT SEARCHED FOR.

Information source: HEINZE, DONALD. BUREAU OF LAND MANAGEMENT, 222 NORTH 32ND STREET, P.O. BOX 36800, BILLINGS, MT 59107-6800. 406/255-2913.

Specimens:

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.041  
Element occurrence type:

Survey site name: BLOODY DICK CREEK  
EO rank: C  
EO rank comments: SOME BROWSING; ROAD MAINTENANCE, WEED SPRAY,  
WILDFLOWER PICKING ALL POTENTIAL THREATS.

County: BEAVERHEAD

USGS quadrangle: KITTY CREEK

Township: Range: Section: TRS comments:  
009S      015W      23      SE4SE4

Precision: S  
Survey date: 1990-08-08      Elevation: 6600 -  
First observation: 1990      Slope/aspect: 3-8% / SOUTHWEST  
Last observation: 1993-06-28      Size (acres): 0

Location:

BEAVERHEAD MOUNTAINS, BLOODY DICK CREEK ROAD, CA. 0.75 MILE SOUTH OF  
DUTCH CREEK, AND CA. 0.5 MILE NORTH OF EAST PETERSON CREEK.

Element occurrence data:

4 PLANTS FOUND IN 1993. 1990: 8 GENETS.

General site description:

ROADCUT; ARTEMISIA TRIDENTATA/FESTUCA IDAHOENSIS COMMUNITY, WITH  
AGROPYRON SPICATUM, BALSAMORHIZA SAGITTATA, KOELERIA CRISTATA,  
PSEUDOTSUGA MENZIESII, SEDUM SP., MELILOTUS OFFICIANALIS.

Land owner/manager:

BLM: BUTTE DISTRICT, DILLON RESOURCE AREA  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

IMMATURE PLANTS NOT SEARCHED FOR.

Information source: VANDERHORST, J. 1993. [MTNHP FIELD SURVEYS  
CONDUCTED AT LEMHI PASS FOR THE BUREAU OF LAND  
MANAGEMENT.]

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.042  
Element occurrence type:

Survey site name: BULL CREEK (HAIRPIN RANCH)  
EO rank: C  
EO rank comments: HIGHWAY MAINTENANCE, WEED SPRAY,  
WILDFLOWER-PICKING ALL POTENTIAL THREATS.

County: BEAVERHEAD

USGS quadrangle: BUTCH HILL

Township: Range: Section: TRS comments:  
006S      014W      16      SE4NE4

Precision: S  
Survey date: 1990-08-12      Elevation: 6700 -  
First observation: 1990      Slope/aspect: 3-8% / SOUTHWEST  
Last observation: 1990-08-12      Size (acres): 0

Location:  
BULL CREEK, ALONG HIGHWAY 278, CA. 5 MILES WEST OF BIG HOLE PASS.

Element occurrence data:  
12 PLANTS IN FLOWER (12 AUGUST 1990).

General site description:  
DISTURBED AREA (ROAD CUT), WITH ARTEMISIA TRIDENTATA, BROMUS TECTORUM,  
AGROPYRON CANINUM, PHLEUM ALPINUM, LUPINUS SPP., ACHILLEA MILLEFOLIUM,  
STIPA VIRIDULA, ARTEMISIA FRIGIDA, SEDUM SPP., FESTUCA IDahoensis,  
ERIGERON SPP., AND MELilotus OFFICINALIS.

Land owner/manager:  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:  
ONLY PLANTS IN FLOWER WERE NOTED.

Information source: HEINZE, DONALD. BUREAU OF LAND MANAGEMENT, 222  
NORTH 32ND STREET, P.O. BOX 36800, BILLINGS, MT  
59107-6800. 406/255-2913.

Specimens:

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.043  
Element occurrence type:

Survey site name: BEAVER CREEK  
EO rank: C  
EO rank comments: HABITAT IN GOOD CONDITION, BUT POPULATION FAIRLY SMALL.

County: RAVALLI

USGS quadrangle: ALTA

Township: Range: Section: TRS comments:  
004S      022W      06      NW4

Precision: S  
Survey date: 1990-07-30      Elevation: 6200 -  
First observation: 1990      Slope/aspect: 30%+ / SOUTHEAST  
Last observation: 1992-06-05      Size (acres): 3

Location:

BITTERROOT MOUNTAINS, WEST FORK BITTERROOT RIVER DRAINAGE, BEAVER CREEK. ALONG BITTERROOT NF ROAD #91, 2.6 MILES WEST OF JUNCTION WITH SHEEP CREEK ROAD, AND CA. 2 AIR MILES NORTHEAST OF HORSE CREEK PASS.

Element occurrence data:

40 PLANTS COUNTED; FRUITING ON DATE OF SURVEY. POPULATION IS BISECTED BY THE ROAD, BUT THE HABITAT ABOVE AND BELOW THE ROAD IS IN VERY GOOD CONDITION. NO SIGNS OF GRAZING; SOME PLANTS HAVE COLONIZED THE ROADBANK. IN 1992, 63 PLANTS OBSERVED (10 FLOWERING).

General site description:

AGROPYRON SPICATUM/FESTUCA IDAHOENSIS GRASSLAND, PSEUDOTSUGA MENZIESII FOREST ZONE; STEEP, SOUTHEAST-FACING SLOPE, IN GRAVELLY LOAM SOILS, WITH BALSAMORHIZA SAGITTATA, ERIOGONUM UMBELLATUM, CENTAUREA MACULOSA, HIERACIUM CYNOGLOSSOIDES, LITHOSPERMUM RUDERALE.

Land owner/manager:

BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

Comments:

SIGHT RECORD, NO VOUCHER SPECIMEN COLLECTED. SITE SURVEYED BY J. S. SHELLY, K. LACKSCHEWITZ, W. ALBERT, AND K. MCBRIDE.

Information source: SHELLY, J. STEPHEN. USFS REGION 1, WLF, P.O. BOX 7669, MISSOULA, MT 59807.

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.044  
Element occurrence type:

Survey site name: TRAPPER CREEK  
EO rank: C  
EO rank comments: DEGRADED BY LIVESTOCK GRAZING; CAR TRAILS THROUGH AREA.

County: BEAVERHEAD

USGS quadrangle: CATTLE GULCH

Township: Range: Section: TRS comments:  
002S      010W      21      SW4SW4NE4

Precision: S  
Survey date: 1990-06-28      Elevation: 6060 -  
First observation: 1990      Slope/aspect: 3-8% / SOUTH  
Last observation: 1990-06-28      Size (acres):

Location:

TRAPPER CREEK, CA. 6.25 AIR MILES WNW OF MELROSE. FROM JUNCTION OF CANYON CREEK ROAD AND TRAPPER CREEK ROAD, TAKE THE LATTER 3.2 MILES TO CATTLE GUARD. TAKE OLD ROAD DOWN TOWARDS CREEK CA. 30 METERS TO SITE.

Element occurrence data:

21 FLOWERING PLANTS; SMALL, REMOTE POPULATION; MAY BE Ephemeral.

General site description:

SAGEBRUSH GRASSLAND AT THE EDGE OF ASPENS ALONG CREEK, WITH POA PRATENSIS, ARTEMISIA TRIDENTATA, LUPINUS SERICEUS, PENSTEMON ARIDUS.

Land owner/manager:

BEAVERHEAD NATIONAL FOREST, WISE RIVER RANGER DISTRICT

Comments:

NONE.

Information source: LESICA, PETER. DIVISION OF BIOLOGICAL SCIENCES, UNIVERSITY OF MONTANA, MISSOULA, MT 59812. PHONE 406/728-8740.

Specimens:

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.045  
Element occurrence type:

Survey site name: UPPER WEST FORK BITTERROOT RIVER  
EO rank: B  
EO rank comments: MODERATE-SIZED POPULATION, HABITAT IN GOOD TO EXCELLENT CONDITION.

County: RAVALLI

USGS quadrangle: ALTA

Township: Range: Section: TRS comments:  
004S 022W 9

Precision: S Survey date: Elevation: 6180 - 6840  
First observation: 1992-06-24 Slope/aspect:  
Last observation: 1992-06-24 Size (acres): 5

Location:

UPPER WEST FORK BITTERROOT RIVER DRAINAGE, CA. 1 MILE SOUTH OF CONFLUENCE OF SHEEP CREEK AND WEST FORK BITTERROOT RIVER; ON SLOPES NORTHEAST OF UNNAMED TRIBUTARY OF WEST FORK BITTERROOT RIVER, CA. 0.25 MILE SOUTHEAST OF CONFLUENCE.

#### Element occurrence data:

48 PLANTS IN MAIN POPULATION; ONE ISOLATED ROSETTE ALSO SEEN ON SEPARATE SLOPE TO THE NORTHWEST. 20 PLANTS FLOWERING AND 28 VEGETATIVE ROSETTES IN MAIN POPULATION. ONE SUBPOPULATION (OF ANY SIZE.) FAIR REPRODUCTIVE SUCCESS, PLANTS SPARSELY SCATTERED.

**General site description:**

OPEN EXPOSURE ON STRAIGHT MIDSLOPE. DRY AREA, LOAM/GRAVELLY LOAM SOIL; GRANITIC PARENT MATERIAL. ASSOCIATED PLANT COMMUNITY: IN SHRUB/GRASSLAND ON STEEP SLOPE, ARTEMISIA TRIDENTATA/AGROPYRON SPICATUM. ADDITIONAL ASSOCIATED PLANT SPECIES: ERIOGONUM UMBELLATUM, ACHILLEA MILLEFOLIUM, BERBERIS REPENS, SYMPHORICARPOS ALBUS, BALSAMORHIZA SAGITTATA, KOELERIA CRISTATA, CAREX GEYERI, ARABIS HOLBOELLI, PSEUDOTSUGA MENZIESII (SPARSE), PENSTEMON ALBERTINUS, LUPIS SERICEUS, FESTUCA IDAHOENSIS, PINUS PONDEROSA (SPARSE), EPILOBIUM MINUTUM.

Land owner/manager:

**BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT**

**Comments:**

VESPID WASPS MAY BE FAIRLY SPECIALIZED POLLINATORS. OLD MINING TRAILS ARE PRESENT IN BOTTOM OF DRAINAGE AND ON THE SLOPE TO THE NORTHWEST.

Information source: SHELLY, J. STEPHEN. USFS REGION 1, WLF, P.O. BOX 7669, MISSOULA, MT 59807.

Specimens: SHELLY, J. S. (1656). 1992.

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.046  
Element occurrence type:

Survey site name: MOUNT HUMBUG

EO rank:

EO rank comments:

County: SILVER BOW

USGS quadrangle: MOUNT HUMBUG

Township: Range: Section: TRS comments:

|      |      |    |        |
|------|------|----|--------|
| 001S | 007W | 06 | NE4    |
| 001N | 007W | 32 | SW4SW4 |

Precision: S

Survey date:

Elevation: 7640 - 7880

First observation: 1992-06-28

Slope/aspect: 20-30% / NE, S, AND W

Last observation: 1993-07-27

Size (acres): 35

Location:

HIGHLAND MOUNTAINS SOUTH OF BUTTE. FROM CAMP CREEK ROAD (FS RD 8520)  
TAKE ROAD TO FISH CREEK AND HIGHLAND LOOKOUT (FS RD 8514). SITE IS 0.2  
MILE BEYOND TURNOFF TO LOOKOUT.

Element occurrence data:

1993: 2 NEW SUBPOPULATIONS FOUND (NORTHERN) WITH 114 PLANTS IN FLOWER.  
158 PLANTS IN FLOWER REPORTED IN POPULATION SURVEYED IN 1992 BY  
LESICA. 1992: TWO SUBPOPULATIONS, EACH WITH 50-100 INDIVIDUALS,  
FLOWERING.

General site description:

OPEN EXPOSURE ON CONCAVE MIDSLOPE. DRY, SPARSELY VEGETATED AREA ON  
RESIDUAL MOUNTAIN SLOPE; SANDY SOIL, CALCAREOUS METASEDIMENT PARENT  
MATERIAL. ASSOCIATED DOMINANT SPECIES: AGROPYRON SPICATUM, FESTUCA  
IDAHOENSIS, ASTRAGALUS MISER. ADDITIONAL ASSOCIATED SPECIES: PHACELIA  
HASTATA, DELPHINIUM BICOLOR, PHLOX LONGIFOLIA, COLLOMIA LINEARIS,  
BROMUS CARINATUS.

Land owner/manager:

DEERLODGE NATIONAL FOREST, BUTTE RANGER DISTRICT  
DEERLODGE NATIONAL FOREST, JEFFERSON RANGER DISTRICT  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

1993: SITE REVISITED BY JOHN JOY AND STEVE SHELLY. OLD MINE PROSPECTS,  
ROAD, POCKET GOPHERS. ECODATA PLOT #92PL107.

Information source: LESICA, PETER. DIVISION OF BIOLOGICAL SCIENCES,  
UNIVERSITY OF MONTANA, MISSOULA, MT 59812. PHONE  
406/728-8740.

Specimens: LESICA, P. (5738). 1992. SPECIMEN# 117161. MONTU.

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.047  
Element occurrence type:

Survey site name: MOUNT HUMBUG  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: MOUNT HUMBUG

Township: Range: Section: TRS comments:  
001S      008W      04      SE4NE4SE4

Precision: S  
Survey date:                          Elevation: 6920 -  
First observation: 1992-07-11      Slope/aspect: 35% / EAST  
Last observation: 1992-07-11      Size (acres): 1

Location:

HIGHLAND MOUNTAINS SOUTH OF BUTTE. FROM HIGHLAND ROAD (FS RD 84) TAKE ROAD TO MOOSE TOWN (FS RD 8594). FOLLOW ROAD TO MALONEY PARK, CONTINUE WEST 0.2 MILE TO TRACK GOING NORTH ACROSS CREEK AND PROCEED ON TRACK FOR CA. 0.7 MILES. SITE IS JUST EAST OF TRACK, CA. 1.6 MILES SOUTHEAST OF THE PEAK OF MOUNT HUMBUG.

Element occurrence data:

100-200 INDIVIDUALS, FLOWERS AND IMMATURE FRUIT. NEARLY ALL INFLORESCENCES EATEN OFF.

General site description:

OPEN EXPOSURE ON CONCAVE RESIDUAL LOWER SLOPE, DRY AREA, SANDY SOIL, CALC METASEDIMENT PARENT MATERIAL. ASSOCIATED DOMINANT SPECIES: CHRYSOTHAMNUS NAUSEOSUS, FESTUCA IDAHOENSIS, AGROPYRON SPICATUM. ADDITIONAL ASSOCIATED SPECIES: HAPLOPAPPUS ACAULIS, MACHAERANTHERA CANESCENS.

Land owner/manager:

PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

PREDATION PROBABLY CAUSED BY ELK, BUT POSSIBLY DEER OR COWS. ECODATA PLOT #92PL115

Information source: LESICA, PETER. DIVISION OF BIOLOGICAL SCIENCES, UNIVERSITY OF MONTANA, MISSOULA, MT 59812. PHONE 406/728-8740.

Specimens:

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.048  
Element occurrence type:

Survey site name: STEEL CREEK

EO rank:

**EO rank comments:**

County: BEAVERHEAD

USGS quadrangle: STEWART MOUNTAIN

Township: Range: Section: TRS comments:  
003S 014W 05 SW4NE4

Precision: S  
Survey date: Elevation: 6280 -  
First observation: 1993-08-16 Slope/aspect: 6% / SOUTHWEST  
Last observation: 1993-09-17 Size (acres): 1

**Location:**

FROM WISDOM GO NORTH 0.25 MILE ON US HWY 43 AND TAKE STEEL CREEK ROAD CA. 4 MILES TO HORSE PASTURE AND EXCLOSURES. POPULATION IS NORTHEAST OF WESTERN EXCLOSURE CA. 50 YARDS.

#### Element occurrence data:

1993: 3 PLANTS OBSERVED ON 16 AUGUST, ALL FLOWERING. ONE FLOWER STALK BROWSED. 18 PLANTS OBSERVED ON 17 SEPTEMBER, 15% FRUITING, 85% VEGETATIVE.

#### General site description:

OPEN, DRY LOWER SLOPE, GRANITE PARENT MATERIAL, SANDY LOAM SOIL.  
ASSOCIATED SPECIES: ARTEMISIA TRIDENTATA, A. FRIGIDA, FESTUCA  
SCABRELLA, F. IDAHOENSIS, CHRYSOTHAMNUS VISCIDIFLORUS, POTENTILLA  
GRACILIS, AGROPYRON SPICATUM.

Land owner/manager:

BEAVERHEAD NATIONAL FOREST, WISDOM RANGER DISTRICT

**Comments:**

EVIDENCE OF HORSE GRAZING. SITE VISITED TWICE IN 1993 BY QUINN CARVER

Information source: SENSITIVE PLANT COORDINATOR, BEAVERHEAD NATIONAL FOREST, 610 NORTH MONTANA STREET, DILLON, MT 59725

### Specimens:

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.049  
Element occurrence type:

Survey site name: BIG HOLE RIVER

EO rank:

EO rank comments:

County: DEER LODGE

USGS quadrangle: PINE HILL

Township: Range: Section: TRS comments:  
001N 014W 26 NW4

Precision: S

Survey date:

First observation: 1993-07-28      Elevation: 3880 - 5940  
Last observation: 1993-07-28      Slope/aspect: 15° / ESE  
Size (acres): 20

### Location:

FROM WISDOM TRAVEL NORTH ON HWY 43 TO WEST BIG HOLE ROAD. POPULATION IS ON BOTH SIDES OF ROAD.

#### Element occurrence data:

215 PLANTS. 95% FLOWERING. 5% VEGETATIVE

#### **General site description:**

OPEN, DRY LOWER SLOPE, ALLUVIAL TERRACE BREAKLANDS. GRANITE PARENT MATERIAL, SANDY LOAM SOIL. ASSOCIATED SPECIES: ARTEMISIA TRIDENTATA, A. FRIGIDA, CHRYSOTHAMNUS NAUSEOSUS, C. VISCIDIFLORUS, ERIOGONUM UMBELLATUM, E. OVALIFOLIUM, AGROPYRON SPICATUM, FESTUCA IDAHOENSIS, STIPA COMATA, S. RICHARDSONII, LUPINUS SERICEUS, ASTER STENOMERES, TRAGOPOGON DUBIUS.

**Land owner/manager:**

BLM: BUTTE DISTRICT. HEADWATERS RESOURCE AREA

#### Comments:

OBSERVED BY O. CARVER AND S. SHELLY

Information source: SHELLY, J. STEPHEN. USFS REGION 1, WLF, P.O. BOX 7669 MISSOULA MT 59807

### Specimens:

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.050  
Element occurrence type:

Survey site name: PAINTED ROCKS LAKE  
EO rank:

EO rank comments:

County: RAVALLI

USGS quadrangle: PAINTED ROCKS LAKE

Township: Range: Section: TRS comments:  
002S      022W      4      SE4

Precision: S

Survey date:                          Elevation: 5800 -

First observation: 1992-07-16      Slope/aspect: 25% / NE

Last observation: 1992-07-16      Size (acres): 1

Location:

POPULATION CA. 1.2 MILES WEST OF PAINTED ROCKS LAKE. SOUTH OF PAINTED ROCKS LAKE, TAKE FS RD 5660 (COAL CREEK ROAD). GO RIGHT UP 5658, THEN RIGHT ON FS RD 13407.

Element occurrence data:

14 PLANTS, 100% VEGETATIVE. APPARENT POOR REPRODUCTIVE SUCCESS--NO FLOWERING STEMS.

General site description:

DRY, OPEN UPPERSLOPE BREAKLANDS. QUARTZITE PARENT MATERIAL, TYPIC USTOCHREPTS SOIL. ASSOCIATED SPECIES: TRIFOLIUM GYMNOCARPON, BALSAMORHIZA SAGITTATA, CALAMAGROSTIS RUBESCENS, PINUS PONDEROSA, PSEUDOTSUGA MENZIESII, FRASERA ALBICAULIS, ACHILLEA MILLEFOLIUM, CENTAUREA MACULOSA, FESTUGA IDAHOENSIS, AGROPYRON SPICATUM, ANTENNARIA UMBRINELLA, SPIREA BETULIFOLIA.

Land owner/manager:

BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

Comments:

OBSERVED BY LINDA PIETARINEN. AREA LOGGED 20-30 YEARS AGO.

Information source: SENSITIVE PLANT COORDINATOR, BITTERROOT NATIONAL FOREST, 316 NORTH 3RD STREET, HAMILTON, MT 59840.

Specimens:

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.051  
Element occurrence type:

Survey site name: SHEEP CREEK

EO rank:

EO rank comments:

County: RAVALLI

USGS quadrangle: ALTA

Township: Range: Section: TRS comments:  
004S      022W      10      NE4NW4

Precision: S

Survey date:                          Elevation: 6040 -

First observation: 1992-09-09      Slope/aspect: 5-40% / WEST

Last observation: 1992-09-09      Size (acres): 1

Location:

FROM WEST FORK RS, TAKE FS RD 91 PAST PAINTED ROCKS LAKE CA. 15 MILES.  
TURN LEFT ONTO SHEEP CREEK ROAD (FS RD 5677). DRIVE CA. 0.2 MILE TO  
LOCKED GATE. HIKE CA. 1 MILE TO OLD ROAD GOING SOUTHEAST TO SHEEP  
CREEK. GO CA. 100-200 YARDS PAST WHERE THE ROAD CROSSES SHEEP CREEK;  
SITE ON ROAD BED AND THE CUT BANK.

Element occurrence data:

ESTIMATED 50 PLANTS, FRUITING.

General site description:

DRY, OPEN LOWERSLOPE.

Land owner/manager:

BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

Comments:

OBSERVED BY D. LOCKMAN. POPULATION GROWING IN ROAD BED AND CUT SLOPE.

Information source: SENSITIVE PLANT COORDINATOR, BITTERROOT NATIONAL  
FOREST, 316 NORTH 3RD STREET, HAMILTON, MT 59840.

Specimens:

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.052  
Element occurrence type:

Survey site name: EAST FORK  
EO rank:  
EO rank comments:

County: DEER LODGE

USGS quadrangle: LONG PEAK

Township: Range: Section: TRS comments:  
002N      013W      19      NE4NE4

Precision: S  
Survey date:                          Elevation: 6520 - 6640  
First observation: 1992-07-01      Slope/aspect: 20% / SOUTH  
Last observation: 1992-07-01      Size (acres): 1

Location:

TRAVEL CA. 21 MILES NORTH OF WISDOM ON HWY 43. TURN WEST ON FS RD 1279, THEN GO CA. 8 MILES. POPULATION IS ON BOTH SIDES OF ROAD.

Element occurrence data:  
26 PLANTS, 95% FLOWERING, 5% FRUITING.

General site description:

DRY, OPEN MID-TO-UPPER SLOPE BREAKLANDS. GRANITE PARENT MATERIAL.  
COARSE SANDY SOIL. ASSOCIATED SPECIES: ARTEMISIA TRIDENTATA, LUPINUS ARGENTEUS, BALSAMORHIZA SAGITTATA, FRAGARIA VIRGINIANA, GERANIUM VISCOSSIMUM, AGROPYRON SPICATUM, AGROPYRON DESERTORUM, FESTUCA IDAHOENSIS.

Land owner/manager:  
BEAVERHEAD NATIONAL FOREST, WISE RIVER RANGER DISTRICT

Comments:  
OBSERVED BY QUINN CARVER. ROAD RUNS THROUGH POPULATION.

Information source: SENSITIVE PLANT COORDINATOR, BEAVERHEAD NATIONAL FOREST, 610 NORTH MONTANA STREET, DILLON, MT 59725.

Specimens:

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.053  
Element occurrence type:

Survey site name: HOWELL CREEK  
EO rank:  
EO rank comments:

County: BEAVERHEAD

USGS quadrangle: PINTLAR LAKE

Township: Range: Section: TRS comments:  
001N      015W      21      SE4

Precision: S  
Survey date:                          Elevation: 6300 - 6500  
First observation: 1992-06-16      Slope/aspect: 40% / SOUTHWEST  
Last observation: 1992-06-16      Size (acres): 4

Location:

TRAVEL 15 MILES ON HWY 43 NORTH FROM WISDOM. TURN LEFT ONTO FS RD 1251 AND LEFT ONTO FS RD 185 WHEN 1251 SPLITS. GO CA. 2 MILES TO HOWELL CREEK; SITE ON FAR WEST PART OF GRAZING ALLOTMENT NEXT TO QUAKing ASPEN STAND.

Element occurrence data:

4 PLANTS, 100% FLOWERING. POOR REPRODUCTIVE SUCCESS.

General site description:

DRY, OPEN MID GLACIATED SLOPE. GRANITE PARENT MATERIAL. SANDY LOAM SOIL. ASSOCIATED SPECIES: ARTEMISIA TRIDENTATA, LUPINUS ARGENTEUS, BALSAMORHIZA SAGITTATA, FRAGARIA VIRGINIANA, GERANIUM VISCOISSIMUM, AGROPYRON SPICATUM, FESTUCA IDAHOENSIS.

Land owner/manager:

BEAVERHEAD NATIONAL FOREST, WISDOM RANGER DISTRICT

Comments:

OBSERVED BY QUINN CARVER, AND M. FERNANDEZ. EVIDENCE OF GRAZING BY ELK.

Information source: SENSITIVE PLANT COORDINATOR, BEAVERHEAD NATIONAL FOREST, 610 NORTH MONTANA STREET, DILLON, MT 59725.

Specimens:

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.054  
Element occurrence type:

Survey site name: SWAMP CREEK  
EO rank:  
EO rank comments:

County: DEER LODGE

USGS quadrangle: LONG PEAK

Township: Range: Section: TRS comments:  
002N      014W      23      SE4; 24 SW4

Precision: S  
Survey date:                          Elevation: 6320 - 6400  
First observation: 1992-07-01      Slope/aspect: 40% / SOUTH  
Last observation: 1992-07-01      Size (acres): 1

Location:

FROM WISDOM TRAVEL CA. 21 MILES NORTH ON HWY 43. TURN WEST ONTO FS RD 1223 AND GO CA. 5 MILES TO INTERSECTION WITH FS RD 1279. ON 1279 TRAVEL CA. 4.5 MILES; POPULATION ON ROADCUT AND BOTH SIDES OF ROAD.

Element occurrence data:  
14 PLANTS, 100% FLOWERING.

General site description:

DRY, OPEN, MIDSLOPE BREAKLANDS. GRANITE PARENT MATERIAL. COARSE SANDY SOIL, WITH ARTEMISIA TRIDENTATA, LUPINUS ARGENTEUS, BALSAMORHIZA SAGITTATA, FRAGARIA VIRGINIANA, GERANIUM VISCOISSIMUM, AGROPYRON SPICATUM, AGROPYRON DESERTORUM, FESTUCA IDAHOENSIS.

Land owner/manager:  
BEAVERHEAD NATIONAL FOREST, WISE RIVER RANGER DISTRICT

Comments:  
OBSERVED BY QUINN CARVER, ROAD RUNNING THROUGH POPULATION.

Information source: SENSITIVE PLANT COORDINATOR, BEAVERHEAD NATIONAL FOREST, 610 NORTH MONTANA STREET, DILLON, MT 59725.

Specimens:

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.055  
Element occurrence type:

Survey site name: DOOLITTLE CREEK  
EO rank:  
EO rank comments:

County: BEAVERHEAD

USGS quadrangle: PROPOSAL ROCK

Township: Range: Section: TRS comments:  
001S      014W      29      N2, NW4SE4

Precision: S  
Survey date:                          Elevation: 6080 - 6400  
First observation: 1992-06-21      Slope/aspect: 35% / SOUTH  
Last observation: 1992-06-21      Size (acres):

Location:

FROM WISDOM, GO CA. 8 MILES NORTH ON HWY 43, TURN EAST ON DOOLITTLE ROAD (FS RD 2421). GO CA. 1.5 MILES. POPULATION STARTS ON ROAD CUT ON NORTH SIDE OF ROAD.

Element occurrence data:  
52 PLANTS, 100% FLOWERING.

General site description:

OPEN, DRY, MID TO LOWER SLOPE BREAKLANDS. GRANITE PARENT MATERIAL.  
SANDY LOAM SOIL. ASSOCIATED SPECIES: ARTEMISIA TRIDENTATA,  
CHRYSOTHAMNUS VISCIDIFLORUS, FESTUCA IDAHOENSIS, AGROPYRON SPICATUM,  
KOELERIA CRISTATA, LUPINUS SERICEUS, ACHILLEA MILLIFOLIA, ARTEMISIA  
TRIPARTITA, ERIOGONUM FLAVUM, ERIOGONUM UMBELLATUM.

Land owner/manager:

CONSERVATION EASEMENT: MONTANA LAND RELIANCE  
BEAVERHEAD NATIONAL FOREST, WISDOM RANGER DISTRICT

Comments:

OBSERVED BY J. JONES AND M. MANTAS. EVIDENCE OF GRAZING.

Information source: MANTAS, MARIA. [FOREST BOTANIST]. FLATHEAD  
NATIONAL FOREST, 1935 THIRD AVENUE EAST,  
KALISPELL, MT 59901. 406/758-5337.

Specimens: MANTAS, M. (492). 1992. ID.

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.056  
Element occurrence type:

Survey site name: ROBBINS GULCH  
EO rank:  
EO rank comments:

County: RAVALLI

USGS quadrangle: ROBBINS GULCH

Township: Range: Section: TRS comments:  
002N      020W      10      SE4SW4; 15 NW4

Precision: S  
Survey date:                          Elevation: 5080 - 5600  
First observation: 1993-10-02      Slope/aspect: 42-50% / ESE, SOUTH  
Last observation: 1995-07-26      Size (acres): 2

Location:

CA. 8 MILES SOUTH OF DARBY. TAKE ROBBINS GULCH ROAD (FS RD 446) EAST 4  
MILES TO FS GATE. PROCEED CA. 0.75 MILE PAST GATE, TAKE ROAD AT  
SWITCHBACK TO SOUTH. PLANTS ALONG ROAD.

Element occurrence data:

1995: 152 PLANTS, 30% FLOWERING/FRUUITING. 1993: 18 PLANTS, 11 WITH  
SPENT FLOWERS, 5 WITH BASAL LEAVES ONLY.

General site description:

DRY, OPEN UPPERSLOPE, DISSECTED MOUNTAIN. ULTIC HAPLOXEROLLS SOIL.  
HIGHLY WEATHERED GRANITIC PARENT MATERIAL. PINUS PONDEROSA/FESTUCA  
IDAHOENSIS-AGROPYRON SPICATUM HABITAT TYPE. ASSOCIATED SPECIES:  
CENTAUREA MACULOSA, PINUS PONDEROSA, FESTUCA IDAHOENSIS, ACHILLEA  
MILLEFOLIUM, AGROPYRON SPICATUM, PHACELIA spp., PENSTEMON spp.,  
BALSAMORHIZA SAGITTATA. MOST PENSTEMON LEMHIENSIS GROWING IN ROADCUT,  
WHERE CENTAUREA IS NOT AS DENSE.

Land owner/manager:  
BITTERROOT NATIONAL FOREST, DARBY RANGER DISTRICT

Comments:

ADDITIONAL POPULATIONS FOUND IN 1995 BY CRAIG ODEGARD; AREA LOGGED  
DURING PREVIOUS 2 YEARS. OBSERVED IN 1993 BY LINDA PIETARINEN.

Information source: SENSITIVE PLANT COORDINATOR, BITTERROOT NATIONAL  
FOREST, 316 NORTH 3RD STREET, HAMILTON, MT 59840.

Specimens:

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.057  
Element occurrence type:

Survey site name: DEEP CREEK/BIG HOLE RIVER  
EO rank:  
EO rank comments:

County: DEER LODGE

USGS quadrangle: LINCOLN GULCH

Township: Range: Section: TRS comments:  
002N      012W      33      SW4NE4

Precision: S  
Survey date:                          Elevation: 5600 -  
First observation: 1993-07-07      Slope/aspect: 24% /SW  
Last observation: 1993-07-07      Size (acres): 1

Location:

FROM WISE RIVER TRAVEL CA. 10 MILES ON HWY 43 TO MILE MARKER 53.  
CONTINUE CA. 0.4 MILE FARTHER. POPULATION ON RIGHT SIDE OF HWY, CA. 15  
FEET FROM PAVEMENT OF ROADCUT.

Element occurrence data:  
1 PLANT, IN FLOWER.

General site description:

DRY, OPEN, LOWER-SLOPE BREAKLANDS. GRANITE PARENT MATERIAL, SANDY LOAM  
SOIL. ASSOCIATED SPECIES: PENSTEMON RYDBERGII, AGROPYRON SPICATUM,  
ARTEMISIA TRIDENTATA.

Land owner/manager:

BEAVERHEAD NATIONAL FOREST, WISE RIVER RANGER DISTRICT  
BLM: BUTTE DISTRICT, HEADWATERS RESOURCE AREA  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

OBSERVED BY QUINN CARVER AND CHRIS QUEEN. DISTURBANCE BY ROADCUT.  
OWNERSHIP OF SITE UNCERTAIN: 1990 LAND USE MAPS SHOW BLM AND PRIVATE;  
USFS OBSERVER INDICATES USFS OWNERSHIP.

Information source: SENSITIVE PLANT COORDINATOR, BEAVERHEAD NATIONAL  
FOREST, 610 NORTH MONTANA STREET, DILLON, MT  
59725.

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.058  
Element occurrence type:

Survey site name: SAWLOG  
EO rank: C  
EO rank comments: SMALL POPULATION.

County: DEER LODGE

USGS quadrangle: PINE HILL

Township: Range: Section: TRS comments:  
001N      013W      18      SE4; SE4NE4

Precision: S  
Survey date: 1994-07-04      Elevation: 5850 - 5980  
First observation: 1993-07-12      Slope/aspect: 10-60% / EAST, SOUTH  
Last observation: 1994-07-04      Size (acres): 2

Location:

FROM WISDOM TRAVEL NORTH CA. 18 MILES ON HWY 43 TO MILE MARKER 45.  
POPULATION IS ON LEFT SIDE OF HIGHWAY AT SAWLOG FISHING ACCESS.

Element occurrence data:

1993: 84 PLANTS, 90% FLOWERING, 10% VEGETATIVE. 2 SUBPOPULATIONS.  
1994: NEW EASTERN SUBPOPULATION WITH CA. 20 PLANTS, 60% FLOWERING, 40%  
VEGETATIVE.

General site description:

OPEN, DRY LOWERSLOPE BREAKLANDS. GRANITE PARENT MATERIAL, COARSE SANDY  
LOAM SOIL. ASSOCIATED SPECIES: AGROPYRON SPICATUM, CHRYSOTHAMNUS  
VISCIFLORUS, ARTEMISIA TRIDENTATA, ARTEMESIA FRIGIDA, ACHILLEA  
MILLEFOIUM, TRAGOPOGON DUBIUS, POLEMONIUM MICRANTHUM, ERIOGONUM  
CAPISTRATUM, ARENARIA CONGESTA, PINUS FLEXILIS, PSEUDOTSUGA MENZIESII,  
POA PRATENSIS, GALIUM BOREALE.

Land owner/manager:

BLM: BUTTE DISTRICT, DILLON RESOURCE AREA  
BEAVERHEAD NATIONAL FOREST, WISDOM RANGER DISTRICT

Comments:

OBSERVED BY QUINN CARVER IN 1993. DISTURBANCE BY ROADCUT. 1990  
INTERAGENCY MAP SHOWS SITE UNDER BLM OWNERSHIP; USFS OWNERSHIP  
INDICATED BY OBSERVER. 1994: DISTURBANCE BY RIVER, ROAD ABOVE SITE,  
AND FISHERMEN WALKING THROUGH.

Information source: LESICA, PETER. DIVISION OF BIOLOGICAL SCIENCES,  
UNIVERSITY OF MONTANA, MISSOULA, MT 59812. PHONE  
406/728-8740.

Specimens: LESICA, P. (6358). 1994. MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.059  
Element occurrence type:

Survey site name: MUSSIGBROD CREEK  
EO rank:  
EO rank comments:

County: BEAVERHEAD

USGS quadrangle: MUSSIGBROD LAKE

Township: Range: Section: TRS comments:  
001S      016W      9      SE4

Precision: S  
Survey date:                          Elevation: 6330 -  
First observation: 1993-07-06      Slope/aspect: 10% / SW  
Last observation: 1993-07-06      Size (acres): 1

Location:

TRAVEL 1 MILE FROM WISDOM ON HWY 43. TURN RIGHT ONTO LOWER NORTH FORK ROAD, PROCEED 7 MILES. TURN LEFT AT MUSSIGBROD LAKE SIGN, PROCEED 5.5 MILES. POPULATION IS ON BOTH SIDES OF ROAD.

Element occurrence data:  
80-90 PLANTS, 80% FLOWERING, 20% VEGETATIVE.

General site description:

DRY, OPEN LOWERSLOPE BREAKLANDS. GRANITE PARENT MATERIAL, COARSE SANDY LOAM SOIL. ASSOCIATED SPECIES: ARTEMISIA TRIDENTATA, CHRYSOTHAMNUS VISCIDIFLORUS, ERIOGONUM UMBELLATUM, ERIGERON CORYMBOSUS, AGROPYRON SPICATUM, FESTUCA IDAHOENSIS, STIPA RICHARDSONII, OCTHOCARPUS TENUIFOLIUS, PHLEUM PRATENSE, POTENTILLA HIPPIANA, VIOLA spp.

Land owner/manager:  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

OBSERVED BY QUINN CARVER. DISTURBANCE BY ROADCUT. POPULATION CA. 100 YARDS FROM FOREST BOUNDARY.

Information source: SENSITIVE PLANT COORDINATOR, BEAVERHEAD NATIONAL FOREST, 610 NORTH MONTANA STREET, DILLON, MT 59725.

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.060  
Element occurrence type:

Survey site name: LITTLE TRAPPER CREEK  
EO rank:  
EO rank comments:

County: RAVALLI

USGS quadrangle: BURNT RIDGE

Township: Range: Section: TRS comments:  
002N      021W      15      SW4NE4

Precision: S  
Survey date:                          Elevation: 4800 -  
First observation: 1993-05-06      Slope/aspect: 48% / SE  
Last observation: 1993-05-06      Size (acres): 1

Location:

TAKE HWY 93 SOUTH FROM DARBY TO CONNER. TAKE WEST FORK ROAD (FS RD 473) CA. 5 MILES.

Element occurrence data:  
47 PLANTS, 100% VEGETATIVE. OLD SEED HEADS FOUND.

General site description:

OPEN, DRY DISSECTED MIDSLOPE. GRANITE/VOLCANIC PARENT MATERIAL. TYPIC ENTROBORALFS SOIL. ASSOCIATED SPECIES: FRASERA ALBICAULIS, CENTAUREA MACULOSA, PENSTEMON spp., PHYSOCARPUS MALVACEUS, COLLINSIA PARVIFLORA, SYMPHORICARPOS ALBUS, BALSAMORHIZA SAGITTATA, BERBERIS REPENS, CAREX GEYERI, AGROPYRON SPICATUM, PSEUDOTSUGA MENZIESII, PINUS PONDEROSA, LOMATIUM spp.

Land owner/manager:  
BITTERROOT NATIONAL FOREST, DARBY RANGER DISTRICT

Comments:  
OBSERVED BY LINDA PIETARINEN AND ROGER FERRIEL.

Information source: SENSITIVE PLANT COORDINATOR, BITTERROOT NATIONAL FOREST, 316 NORTH 3RD STREET, HAMILTON, MT 59840.

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: *PENSTEMON LEMHIENSIS*  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.061  
Element occurrence type:

Survey site name: CASTNER CREEK

EO rank:

EO rank comments:

County: RAVALLI

USGS quadrangle: ALTA

Township: Range: Section: TRS comments:  
003S      022W      9      NE4

Precision: S

Survey date:

Elevation: 5200 - 5320

First observation: 1993-07-08

Slope/aspect: 45% / SW

Last observation: 1993-07-08

Size (acres): 5

Location:

TAKE WEST FORK ROAD (FS RD 473) CA. 32 MILES SOUTH FROM DARBY.  
POPULATION ON OPEN SLOPE NORTH OF CASTNER CREEK.

Element occurrence data:

59 PLANTS, 80% FLOWERING, 10% VEGETATIVE, 10% FRUITING. GOOD  
REPRODUCTIVE SUCCESS.

General site description:

DRY, OPEN MIDSLOPE. QUARTZITE/ARGILLITE/SILTITE PARENT MATERIAL. ULTIC  
HAPLOXEROLLS SOIL. ASSOCIATED SPECIES: AGROPYRON SPICATUM,  
CHRYSOTHAMNUS SP., SYMPHORICARPOS ALBUS, PINUS PONDEROSA, PRUNUS  
VIRGINIANA, BALSAMORHIZA SAGITTATA, CENTAUREA MACULOSA, PHLEUM,  
LUPINUS SP., SEDUM STENOPETALUM, GILEA, ANTEENNARIA RACEMOSA, FRAGARIA  
VIRGINIANA.

Land owner/manager:

BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

OBSERVED BY LAREE HAFNER. DISTURBANCE BY OLD LOGGING ROADS. SPECIMEN  
COLLECTED BY LAREE HAFNER; COLLECTION NUMBER AND REPOSITORY UNKNOWN.

Information source: SENSITIVE PLANT COORDINATOR, BITTERROOT NATIONAL  
FOREST, 316 NORTH 3RD STREET, HAMILTON, MT 59840.

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: *PENSTEMON LEMHIENSIS*  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.062  
Element occurrence type:

Survey site name: WOODS CREEK  
EO rank:  
EO rank comments:

County: RAVALLI

USGS quadrangle: ALTA

Township: Range: Section: TRS comments:  
003S 022W 19 SE4

Precision: S  
Survey date: Elevation: 6040 -  
First observation: 1993-06-10 Slope/aspect: 65% / SE  
Last observation: 1993-06-10 Size (acres): 3

Location:

TAKE WEST CREEK ROAD CA. 32 MILES SOUTH FROM CONNER. TURN RIGHT ONTO  
WOODS CREEK ROAD; PROCEED CA. 2 MILES. SITE ABOVE ROAD TO NORTH,  
ALMOST TO TOP OF RIDGE IN ROCKY AREA.

Element occurrence data:  
14 PLANTS, 10% FLOWERING (IN BUD).

General site description:

OPEN, DRY, UPPERSLOPE BREAKLANDS. GRANITE PARENT MATERIAL, ULTIC  
HAPLOXEROLLS AND ULTIC ARGIXEROLLS SOIL. ASSOCIATED SPECIES: *GILIA*  
*AGGREGATA*, *CERCOCARPUS LEDIFOLIUS*, *ARTEMISIA TRIDENTATA*, *AGROPYRON*  
*SPICATUM*, *BERBERIS REPENS*, *FESTUCA IDAHOENSIS*, *PHYSARIA GEYERII*,  
*BALSAMORHIZA SAGITTATA*, *CASTILLEJA COVILLEANA*, *CALOCHORTUS NUTTALLII*,  
*SYMPHORICARPOS ALBUS*, *PSEUDOTSUGA MENZIESII*, *CHRYSOTHAMNUS SP.*

Land owner/manager:  
BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

Comments:  
OBSERVED BY LINDA PIETARINEN AND LAREE HAFNER.

Information source: SENSITIVE PLANT COORDINATOR, BITTERROOT NATIONAL  
FOREST, 316 NORTH 3RD STREET, HAMILTON, MT 59840.

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: *PENSTEMON LEMHIENSIS*  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.063  
Element occurrence type:

Survey site name: FRANCIS CREEK

EO rank:

EO rank comments:

County: BEAVERHEAD

USGS quadrangle: WISDOM  
STEWART MOUNTAIN

Township: Range: Section: TRS comments:  
003S 014W 18 W2, SE4

Precision: S

Survey date: Elevation: 6340 - 6700

First observation: 1992-07-09 Slope/aspect: 10-12% / SW-S

Last observation: 1993-07-20 Size (acres): 1

Location:

ON HWY 43 TRAVEL CA. 0.25 MILE NORTH OF WISDOM. TURN RIGHT ON STEELE CREEK ROAD, GO CA. 5 MILES, TURN RIGHT ONTO STEELE-FOX ROAD. GO CA. 2 MILES TO A FORK. TAKE RIGHT-HAND FORK. TRAVEL CA. 3 MILES TO JEEP TRAIL ON RIGHT. TAKE JEEP TRAIL CA. 1 MILE FOR CENTRAL POPULATION, 2 MILES FOR WEST POPULATION, AND 3 MILES FOR EASTERN POPULATION.

Element occurrence data:

4 SUBPOPULATIONS, 61 PLANTS COUNTED, FRUITING, FLOWERING, AND VEGETATIVE.

General site description:

DRY, OPEN, LOWER AND MIDSLOPES, COARSE SOILS, WITH *ARTEMISIA TRIDENTATA*, *FESTUCA IDAHOENSIS*, *AGROPYRON SPICATUM*, *FESTUCA SCABRELLA*, *CHRYSOTHAMNUS VISCIDIFLORUS*, *C. NAUSEOSUS* AND OTHERS. COMPLETE LIST OF ASSOCIATED SPECIES FOR SUBPOPULATIONS ON FILE AT MTHP.

Land owner/manager:

BEAVERHEAD NATIONAL FOREST, WISDOM RANGER DISTRICT

Comments:

OBSERVED BY QUINN CARVER. SOME DISTURBANCE BY ROAD AND GRAZING.

Information source: SENSITIVE PLANT COORDINATOR, BEAVERHEAD NATIONAL FOREST, 610 NORTH MONTANA STREET, DILLON, MT 59725.

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.064  
Element occurrence type:

Survey site name: SOLDIER CREEK  
EO rank:

EO rank comments:

County: RAVALLI

USGS quadrangle: ALTA

Township: Range: Section: TRS comments:  
003S 022W 31 SE4

Precision: S

Survey date: Elevation: 6280 - 6380

First observation: 1993-06-17

Slope/aspect: 50% / SSE

Last observation: 1993-06-17

Size (acres): 1

Location:

SITE CA. 28 MILES SOUTHWEST OF CONNER. OFF BEAVER CREEK ROAD. SITE ON SLOPE NORTHEAST OF SOLDIER CREEK

Element occurrence data:

16 PLANTS, 10% FLOWERING.

General site description:

DRY, OPEN UPPERSLOPE BREAKLANDS. GRUST WEATHERED GRANITE PARENT MATERIAL, ULTIC HAPLOXEROLLS AND ULTIC ARGIXEROLLS SOIL. ASSOCIATED SPECIES: BALSAMORHIZA SAGITTATA, ARTEMISIA TRIDENTATA, SEDEM LANCEOLATUM, LUPINUS WYETHII, CHRYSOTHAMNUS SP., ERIOGONUM UMBELLATUM, FESTUCA IDAHOENSIS, AGROPYRON SPICATUM.

and owner/manager:

BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

Comments:

OBSERVED BY LINDA PIETARINEN AND LAREE HAFNER.

Information source: SENSITIVE PLANT COORDINATOR, BITTERROOT NATIONAL FOREST, 316 NORTH 3RD STREET, HAMILTON, MT 59840.

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.065  
Element occurrence type:

Survey site name: PINTLAR CREEK

EO rank:

EO rank comments:

County: DEER LODGE

USGS quadrangle: PINTLAR LAKE

Township: Range: Section: TRS comments:  
001N 015W 23

Precision: M

Survey date: Elevation: 6200 -

First observation: 1993-07-17 Slope/aspect:

Last observation: 1993-07-17 Size (acres):

Location:

ON ROAD TO PINTLAR LAKE FROM BIG HOLE HWY, ON SHORT, STEEP ROADCUT ON BOTH SIDES OF THE ROAD.

Element occurrence data:

+6 PLANTS.

General site description:

IN DRY PRARIE VEGETATION ON SHORT, STEEP ROADCUT. ERIOGONUM UMBELLATUM COMMON.

Land owner/manager:

BEAVERHEAD NATIONAL FOREST, WISE RIVER RANGER DISTRICT

Comments:

OBSERVED BY KLAUS, GERTRUD, AND IMMO LACKSCHEWITZ. LOCATION APPROXIMATE--MAY BE ALONG ROAD FOR CA. 1-2 MILES TO SOUTH.

Information source: SENSITIVE PLANT COORDINATOR, BEAVERHEAD NATIONAL FOREST, 610 NORTH MONTANA STREET, DILLON, MT 59725.

Specimens: LACKSCHEWITZ, K. (11980). 1993. SPECIMEN# 118499.  
MONTU.

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.066  
Element occurrence type:

Survey site name: BIG HOLE PASS  
EO rank:

EO rank comments:

County: BEAVERHEAD

USGS quadrangle: TASH PEAK

Township: Range: Section: TRS comments:  
006S      013W      8      S2

Precision: S

Survey date:                          Elevation: 7050 - 7320

First observation: 1994-09-02

Slope/aspect: 5-25% / SW

Last observation: 1994-09-02

Size (acres):

Location:

FROM DILLON, TAKE I-15 SOUTH TO TURNOFF AT STATE HIGHWAY 278, HEAD WEST FOR CA. 28 MILES TO BIG HOLE PASS. PLANTS ARE ON EITHER SIDE OF ROAD EAST OF THE PASS.

Element occurrence data:

26 PLANTS; 5 SUBPOPULATIONS. 100% FRUITING. TOTAL AREA COVERED BY PLANTS IS LOW WITH SUBPOPULATIONS UP TO 1 MILE APART.

General site description:

OPEN, DRY, SANDY LOAM. ARTEMISIA TRIDENTATA/FESTUCA IDAHOENSIS COMMUNITY TYPE. NATIVE HABITAT AND OLD ROAD CUTS THAT HAVE REGENERATED. ASSOCIATED SPECIES: AMELANCHIER ALNIFOLIA, AGROPYRON SPICATUM, ANTENNARIA MICROPHYLLA, ARENARIA CONGESTA, ERIOGONUM MANCUM, KOELERIA MACRANTHA, ITIERACIUM CYNOGLOSSOIDES, POA SECUNDA.

Land owner/manager:

BEAVERHEAD NATIONAL FOREST, DILLON RANGER DISTRICT

Comments:

OBSERVED BY L. S. ROE. SMALL POPULATION MAY BE THREATENED BY PROPOSED ROAD REALIGNMENT.

Information source: ROE, LISA SCHASSBERGER. [BOTANIST.] 531 SPENCER, HELENA, MONTANA 59601.

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: *PENSTEMON LEMHIENSIS*  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.067  
Element occurrence type:

Survey site name: BEAVER CREEK  
EO rank:

EO rank comments:

County: RAVALLI

USGS quadrangle: ALTA

Township: Range: Section: TRS comments:  
004S 022W 4 SW4

Precision: S

Survey date: Elevation: 6120 -

First observation: 1994-07-18 Slope/aspect: 10% / SE  
Last observation: 1994-07-18 Size (acres): 1

Location:

4.5 MILES FROM IDAHO BORDER, BITTERROOT NATIONAL FOREST. TAKE ROAD  
DOWN PAST PAINTED ROCKS RESERVOIR, PAST ALTA TOWARD HORSE CREEK PASS.  
TAKE ROAD 5677 TO BRIDGE; HEAD WEST UP RIDGE TO OLD SKID TRAILS AT TOP  
(0.25 MILES).

Element occurrence data:  
7-10 INDIVIDUALS.

General site description:

DRY, PARTIALLY SHADED DISSECTED MOUNTAIN SLOPE. SILTY SAND, QUARTZITE  
PARENT MATERIAL. ASSOCIATED SPECIES: AGROPYRON SPICATUM, FESTUCA  
IDAHOENSIS, CAREX GEYERI, PSEUDOTSUGA MENZIESII, BALSAMORHIZA  
SAGITTATA, BERBERIS REPENS, SYMPHORICARPOS SP.

Land owner/manager:

BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

Comments:

OBSERVED BY N. BANISTER: BEGINNING OF SKID TRAIL OR OLD ROADCUT IS  
EVIDENCE OF DISTURBANCE.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515  
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: *PENSTEMON LEMHIENSIS*  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.068  
Element occurrence type:

Survey site name: CHRISTMAS TREE CREEK  
EO rank:  
EO rank comments:

County: RAVALLI

USGS quadrangle: ALTA

Township: Range: Section: TRS comments:  
003S 022W 13 SW4; 14 SE4

Precision: S  
Survey date: Elevation: 7280 - 7400  
First observation: 1994-07-05 Slope/aspect: 20% / SW  
Last observation: 1994-07-05 Size (acres):

Location:

TAKE ROAD 5685 FROM SOUTH OF ALTA (WEST FORK OF BITTERROOT) FOR CA. 8 MILES TO WHERE IT IS DIRECTLY SOUTH OF THUNDER MOUNTAIN. WALK ALONG RIDGE LEADING UP THUNDER MOUNTAIN.

Element occurrence data:

2 SUBPOPULATIONS CA. 1000 FEET APART; 7 PLANTS IN 1 SUBPOPULATION, 5 IN THE OTHER. 10 PLANTS VEGETATIVE, 2 ALMOST FLOWERING.

General site description:

DRY, SANDY OPEN ROLLING UPLANDS, MANY BOULDERS. ASSOCIATED SPECIES: *PSEUDOTSUGA MENZIESII*, *CALAMAGROSTIS RUBESCENS*, *AGROPYRON SPICATUM*, *TARAXACUM* sp., *BROMUS* sp., *CAREX GEYERI*, *SENECIO INTEGERRIMUS*, *GILIA AGGREGATA*, *ARABIS HOLBOELLII*, *GERANIUM VISCOISSIMUM*, *LUPINUS WYETHII*, *ACHILLEA MILLEFOLIUM*, *COLLISSIA PARVIFLORA*, *DESCURAINIA RICHARDSONII*, *PHACELIA HETEROPHYLLA*, *ALLIUM PARVUM*, *FRASERA ALBICAULIS*, *EPILOBIUM GLABERRIMUM* (?).

Land owner/manager:

BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

Comments:

OBSERVED BY C. ODEGARD: SOIL SURFACE HEAVILY TRAMPLED BY DEER AND ELK.

Information source: SENSITIVE PLANT COORDINATOR, BITTERROOT NATIONAL FOREST, 316 NORTH 3RD STREET, HAMILTON, MT 59840.

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: *PENSTEMON LEMHIENSIS*  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.069  
Element occurrence type:

Survey site name: JOHNSON CREEK

EO rank:

EO rank comments:

County: RAVALLI

USGS quadrangle: ALTA

Township: Range: Section: TRS comments:  
004S 022W 2 SW4SW4

Precision: S

Survey date: Elevation: 7100 -

First observation: 1994-06-29 Slope/aspect: 20% / SE

Last observation: 1994-06-29 Size (acres): 1

Location:

DRIVE ALL THE WAY UP THE WEST FORK OF THE BITTERROOT (SOUTH OF ALTA)  
AND TURN ON ROAD 5677 TO THE EAST. FOLLOW THIS ROAD 4-5 MILES UNTIL IT  
NEARS THE EXTREME SOUTHWEST CORNER OF SECTION 2, THEN PARK AND CLIMB  
UP TO THE RIDGE SEVERAL HUNDRED YARDS TO THE EAST.

Element occurrence data:

22 PLANTS, 6 ALMOST FLOWERING, 16 VEGETATIVE; BLACK ANTS ON THE  
FLOWERS.

General site description:

DRY, SANDY, MOSTLY OPEN LEEWARD SIDE OF RIDGE CREST. ASSOCIATED  
SPECIES: *PSEUDOTSUGA MENZIESII*, *ARTEMISIA TRIDENTATA*, *CAREX GEYERI*,  
*PHACELIA HETEROPHYLLA*, *MAHONIA REPENS*, *LUPINUS WYETHII*, *SYMPHORICARPOS*  
*ALBUS*, *MYOSOTIS ALPESTRIS*, *GERANIUM VISCOISSIMUM*, *HIERACIUM SP.*,  
*AGROPYRON SPICATUM*, *FESTUCA SCABRELLA*, *ACHILLEA MILLEFOLIUM*,  
*MICROSERIS NUTANS*, *ANTENNARIA SP.*, *KOELERIA MACRANTHA*, *TRAGOPOGON*  
*DUBIUS*.

Land owner/manager:

BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

Comments:

OBSERVED BY C. ODEGARD: LIGHT ELK DISTURBANCE, OLD ROADS AND PROSPECTS  
NEARBY.

Information source: BOTANIST, MONTANA NATURAL HERITAGE PROGRAM, 1515  
EAST SIXTH AVENUE, HELENA, MT 59620-1800.

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.070  
Element occurrence type:

Survey site name: WEST FORK BITTERROOT RIVER  
EO rank:

EO rank comments:

County: RAVALLI

USGS quadrangle: ALTA

Township: Range: Section: TRS comments:  
003S 022W 16 NE4

Precision: S  
Survey date: Elevation: 5400 -  
First observation: 1994-06-20 Slope/aspect: 65% / WEST  
Last observation: 1994-06-20 Size (acres): 1

Location:

FROM ALTA, FOLLOW ROAD UP WEST FORK OF BITTERROOT RIVER TO THUNDER CREEK AND CONTINUE 0.25 MILE FURTHER. POPULATION IS 200-300 FEET ABOVE ROAD (TO NORTHEAST) ON STEEP, OPEN, SOUTHWEST SLOPE.

Element occurrence data:

2 PLANTS FOUND, 1 FLOWERING, 1 VEGETATIVE.

General site description:

DRY, OPEN, ROCKY UNGLACIATED STEEP MIDSLOPE. QUARTZITE, CALC-SILICATE GNEISS PARENT MATERIAL. ASSOCIATED SPECIES: AGROPYRON SPICATUM, ERIGERON SP., FESTUCA IDAHOENSIS, KOELERIA MACRANTHA, CAREX GEYERI, TRAGOPOGON SP., ERIOGONUM UMBELLATUM, BALSAMORHIZA SAGITATTA, ACHILLEA MILLEFOLIUM, FRASERA ALBICAULIS, PRUNUS VIRGINIANA, SEDUM LANCEOLATUM, MAHONIA REPENS, GEUM TRIFLORUM, CREPIS ATRIBARBA, ZIGADENUS VENenosus, BROMUS TECTORUM, COLLINSIA PARVIFLORA, POTENTILLA GLANDULOSA.

Land owner/manager:

BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

Comments:

OBSERVED BY C. ODEGARD: DOWNSLOPE MOVEMENT ASSOCIATED WITH ANIMAL TRACKS AND TRAILS. QUICK SURVEY; PROBABLY MORE PLANTS IN THE IMMEDIATE AREA.

Information source: SENSITIVE PLANT COORDINATOR, BITTERROOT NATIONAL FOREST, 316 NORTH 3RD STREET, HAMILTON, MT 59840.

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.071  
Element occurrence type:

Survey site name: EAST FORK BITTERROOT RIVER

EO rank:

EQ rank comments:

County: RAVALLT

USGS quadrangle: MEDICINE HOT SPRINGS

Township: Range: Section: TRS comments:  
001N 020W 2 NW4 SE4

Precision: S Survey date: Elevation: 4600 -  
First observation: 1994-06-05 Slope/aspect: 57% / ESE  
Last observation: 1994-06-05 Size (acres): 5

Location:

ON HIGHWAY 93, DRIVE 1.2 MILES DOWNRIVER FROM TURNOFF TO WARM SPRINGS CREEK AND ASCEND RIDGE.

#### Element occurrence data:

8 PLANTS, 2 FLOWERING; ANTS PRESENT ON SEVERAL.

#### General site description:

DRY, OPEN, STEEP UNGLACIATED SLOPE. GRAVELLY, SANDY LOAM, GRANITE PARENT MATERIAL. ASSOCIATED SPECIES: *CENTAUREA MACULOSA*, *AGROPYRON SPICATUM*, *FESTUCA IDAHOENSIS*, *PINUS PONDEROSA*, *KOELERIA MICRANTHA*, *PHACELIA* sp., *BALSAMORHIZA SAGITTATA*, *ALYSSUM ALYSSOIDES*, *COLLINSIA PARVIFLORA*, *BROMUS TECTORUM*, *ERIGERON COMPOSITUS*, *ARABIS HOLBOELLII*.

Land owner/manager:

**BITTERROOT NATIONAL FOREST, SULA RANGER DISTRICT**

**Comments:**

OBSERVED BY C. ODEGARD AND D. GOSLIN: WILDLIFE AND/OR COW TRAILS CROSS MUCH OF THE SLOPE.

Information source: SENSITIVE PLANT COORDINATOR, BITTERROOT NATIONAL FOREST, 316 NORTH 3RD STREET, HAMILTON, MT 59840

**Specimens:**

uly 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

cientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

lobal rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

lement occurrence code: PDSCR1L3N0.072

lement occurrence type:

Survey site name: BLUE JOINT BAY

EO rank:

EO rank comments:

County: RAVALLI

JSGS quadrangle: PAINTED ROCKS LAKE

Township: Range: Section: TRS comments:  
002S 022W 03 NW4

Precision: S

Survey date: Elevation: 5400 -

First observation: 1994-07-20

Slope/aspect: 30% / SOUTH

Last observation: 1994-07-20

Size (acres): 1

Location:

PAINTED ROCKS RESERVOIR, 0.25 MILE NORTH OF BLUE JOINT BAY.

Element occurrence data:

5-7 INDIVIDUALS.

General site description:

OPEN, DRY LOWER SLOPE. SAND SILT SOIL TEXTURE. ASSOCIATED SPECIES:  
AGROPYRON SPICATUM, FESTUCA IDAHOENSIS, BALSAMORHIZA SAGITTATUM, PINUS  
PONDEROSA, PSEUDOTSUGA MENZIESII.

Land owner/manager:

BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

PAINTED ROCKS STATE RECREATION SITE

Comments:

OBSERVED BY N. BANISTER. SITE CURRENTLY ON STATE LANDS BUT SOON TO  
BECOME USFS LANDS.

Information source: SENSITIVE PLANT COORDINATOR, BITTERROOT NATIONAL  
FOREST, 316 NORTH 3RD STREET, HAMILTON, MT 59840.

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.073  
Element occurrence type:

Survey site name: BEAVER CREEK  
EO rank:

EO rank comments:

County: RAVALLI

USGS quadrangle: HORSE CREEK PASS

Township: Range: Section: TRS comments:  
004S 023W 1 NW4

Precision: S  
Survey date: Elevation: 7400 -  
First observation: 1994-07-18 Slope/aspect: 20% / SSW  
Last observation: 1994-07-18 Size (acres): 0.5

Location:

CA. 1.5 AIR MILES NNE OF HORSE CREEK PASS ON RIDGE AMONG OLD MINE DWELLINGS.

Element occurrence data:

50-80 PLANTS. 10% LATE FLOWERING TO FRUITING, 90% VEGETATIVE.

General site description:

WINDSWEPT, OPEN ROCKY RIDGE; DRY, NARROW, ROUNDED, UNGLACIATED.  
GREY-BLACK CRYSTALLINE ROCKS, CREATING WARM MICROENVIRONMENT.  
ASSOCIATED SPECIES: ERIOGONUM FLAVUM, CAREX GEYERI, AGROPYRON SPICATUM, FESTUCA IDAHOENSIS, KOELERIA MACRANTHA, ACHILLEA MILLEFOLIUM, ERIOGONUM UMBELLATUM.

Land owner/manager:

BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

Comments:

OBSERVED BY C. ODEGARD: SEVERAL FLOWERING STEMS GRAZED BY DEER/ELK.

Information source: SENSITIVE PLANT COORDINATOR, BITTERROOT NATIONAL FOREST, 316 NORTH 3RD STREET, HAMILTON, MT 59840.

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.074  
Element occurrence type:

Survey site name: JOHNSON CREEK  
EO rank:  
EO rank comments:

County: RAVALLI

USGS quadrangle: SHOUP

Township: Range: Section: TRS comments:  
004S      022W      15      NE4SE4

Precision: S  
Survey date:                          Elevation: 7800 -  
First observation: 1994-17-19      Slope/aspect: 60% / SE  
Last observation: 1994-07-19      Size (acres): 1

Location:

HEADWATERS OF JOHNSON CREEK. DRIVE AS FAR AS POSSIBLE UP THE WEST FORK OF THE BITTERROOT RIVER, THEN GO UP BEAVER CREEK TO HORSE CREEK PASS, CROSS INTO IDAHO, HEAD SOUTHEAST ON ROADS 44 AND 38 ALONG THE DIVIDE UNTIL THE ROAD LEAVES THE DIVIDE, FOLLOW THE DIVIDE TRAIL TO THE NORTHEAST FOR ABOUT A MILE, THEN TRAVEL CROSS-COUNTRY INTO THE HEADWATERS OF JOHNSON CREEK.

Element occurrence data:  
24 PLANTS, 7 FLOWERING, 17 VEGETATIVE.

General site description:

MOSTLY OPEN DRY MIDSLOPE. SANDY, GRAVELLY SOILS; ROCK AND BARE SOIL ON OTHERWISE GRASS-COVERED SLOPE. ASSOCIATED SPECIES: AGROPYRON SPICATUM, CAREX GEYERI, ANTENNARIA SP., KOELARIA MACRANTHA, BALSAMORHIZA SAGITATTA, ERIOGONUM UMBELLATUS, YELLOW CASTILLEJA, LUPINUS WYETHII, BERICERIS REPENS, ACHILLEA MILLEFOLIUM, COLLINSIA PARVIFLORA, HIERACIUM ALBIFLORUM (?), PHACELIA HETEROPHYLLA, GERANIUM VISCOSSIMUM, MICROSERIS NUTANS, SYMPHORICARPOS ALBUS, POTENTILLA GLANDULOSA.

Land owner/manager:  
BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

Comments:

OBSERVED BY C. ODEGARD: ELK TRACKS COMMON IN BARE SOIL, CAUSING GRADUAL DOWNSLOPE SOIL MOVEMENT.

Information source: SENSITIVE PLANT COORDINATOR, BITTERROOT NATIONAL FOREST, 316 NORTH 3RD STREET, HAMILTON, MT 59840.

Specimens:

July 18, 1995

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: *PENSTEMON LEMHIENSIS*  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.075  
Element occurrence type:

Survey site name: ROBBINS GULCH  
EO rank:  
EO rank comments:

County: RAVALLI

USGS quadrangle: ROBBINS GULCH

Township: Range: Section: TRS comments:  
002N      020W      03      E2; 02W2

Precision: S  
Survey date:                          Elevation: 5400 - 5700  
First observation: 1994-08-30      Slope/aspect: 25-50% / SW,S,SE  
Last observation: 1994-08-30      Size (acres): 5

Location:

TAKE HIGHWAY 93 CA. 8 MILES SOUTH OF DARBY, CA. 0.75 MILE BEYOND THE CONNER CUTOFF, AND TURN LEFT ON ROBBINS GULCH ROAD (#446). POPULATION IS ON DRY SLOPES BEGINNING A MILE UP THE ROAD AND CONTINUING UP ROAD #5612A. PLANTS ARE GENERALLY ABOVE ROAD AND OCCASIONALLY IN ROADCUT.

Element occurrence data:

95-100 PLANTS, 5 SUBPOPULATIONS. 40% FLOWERED THIS YEAR AND HAVE SINCE DISPERSED THEIR SEEDS.

General site description:

OPEN, DRY, LOWER, MID, UPPER DISSECTED MOUNTAIN SLOPES. SANDY, HIGHLY WEATHERED GRANITICS, ULTIC HAPLOXEROLLS SOILS. ASSOCIATED SPECIES: *PINUS PONDEROSA*, *BALSAMORHIZA SAGITTATA*, *AGROPYRON SPICATA*, *FESTUCA IDAHOENSIS*, *LITHOSPERMUM RUDERALE*, *KOELERIA CRISTATA*, *CENTAUREA MACULOSA*, *ACHILLEA MILLEFOLIUM*, *SYMPHORICARPOS ALBUS*, *PURSHIA TRIDENTATA*, *PSEUDOTSUGA MENZIESII*.

Land owner/manager:

BITTERROOT NATIONAL FOREST, DARBY RANGER DISTRICT

Comments:

OBSERVED BY C. ODEGARD AND L. PIETARINEN. ROADS, DEER/ELK TRAILS, COWS. A FEW WIDELY-SCATTERED STEMS GRAZED.

Information source: SENSITIVE PLANT COORDINATOR, BITTERROOT NATIONAL FOREST, 316 NORTH 3RD STREET, HAMILTON, MT 59840.

Specimens:

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.076  
Element occurrence type:

Survey site name: SAWDUST GULCH  
EO rank:

EO rank comments:

County: RAVALLI

USGS quadrangle: FRENCH BASIN

Township: Range: Section: TRS comments:  
002N      019W      27      SW4, SE4; 28 SE4NE4

Precision: S  
Survey date:                          Elevation: 4600 - 4800  
First observation: 1995-06-21      Slope/aspect: 15% / SW  
Last observation: 1995-06-21      Size (acres): 1

Location:

FROM HWY 93, TAKE EAST FORK ROAD SEVERAL MILES TO FRENCH BASIN ROAD,  
THEN DRIVE NORTH A COUPLE MILES TO THE MOUTH OF SAWDUST GULCH. SITE  
NEAR ROAD ON NORTH SIDE OF GULCH.

Element occurrence data:

73 PLANTS, 4 SUBPOPULATIONS. 18 BEGINNING TO FLOWER, 43 VEGETATIVE. 25  
HAD PRIOR YEAR'S FLOWERING STEMS PRESENT.

General site description:

OPEN, DRY LOWERSLOPE UNGLACIATED ROLLING HILLS. FINE GRAVELLY SOIL,  
GRANITIC PARENT MATERIAL. FESTUCA IDAHOENSIS/AGROPYRON SPICATUM  
HABITAT TYPE. ASSOCIATED SPECIES: CENTAUREA MACULOSUA, FRAGARIA  
ALBICAULIS, PENSTEMON ALBERTINUS, GILIA AGGREGATA, ASTRAGALUS  
INFLEXUS, ERIOGONUM OVALIFOLIUM, ARABIS HOLBOELLII, PINUS PONDEROSA,  
ALYSSUM DESERTORUM, BROMUS TECTORUM.

Land owner/manager:

BITTERROOT NATIONAL FOREST, SULA RANGER DISTRICT  
CONSERVATION EASEMENT: THE NATURE CONSERVANCY

Comments:

OBSERVED BY C. ODEGARD. SITE 40 FEET UPSLOPE OF ROAD AND APPEARS TO  
HAVE BEEN SEVERELY BULLDOZED IN THE DISTANT PAST. ONE STEM GRAZED;  
LARGE COW HERD NEARBY.

Information source: SENSITIVE PLANT COORDINATOR, BITTERROOT NATIONAL  
FOREST, 316 NORTH 3RD STREET, HAMILTON, MT 59840.

Specimens:

MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDSCR1L3N0.077  
Element occurrence type:

Survey site name: HUGHES CREEK  
EO rank:

EO rank comments:

County: RAVALLI

USGS quadrangle: ALTA

Township: Range: Section: TRS comments:  
002S      022W      35      SE4

Precision: S

Survey date:                          Elevation: 6400 -

First observation: 1995-07-11      Slope/aspect: 50% / SSW

Last observation: 1995-07-11      Size (acres): 5

Location:

TAKE WEST FORK ROAD SOUTH TO ALTA, AND TURN EAST ON HUGHES CREEK ROAD.  
TAKE FIRST ROAD NORTH (LOOKOUT MOUNTAIN ROAD). PLANTS ARE LOCATED JUST  
BEFORE FOURTH SWITCHBACK (AT JUNCTION OF FS RD 5694), BOTH ON LOWER  
AND UPPER ROAD OF SWICHBACK.

Element occurrence data:

CA. 30 PLANTS, 80% FLOWERING.

General site description:

OPEN, DRY DISSECTED MOUNTAIN MIDSLOPE. ULTIC HAPLOXEROLLS, QUARZITE  
PARENT MATERIAL. PINUS PONDEROSA/AGROPYRON SPICATUM COMMUNITY TYPE.  
ASSOCIATED SPECIES: BALSAMORHIZA SAGITTATA, AND OTHERS

Land owner/manager:

BITTERROOT NATIONAL FOREST, WEST FORK RANGER DISTRICT

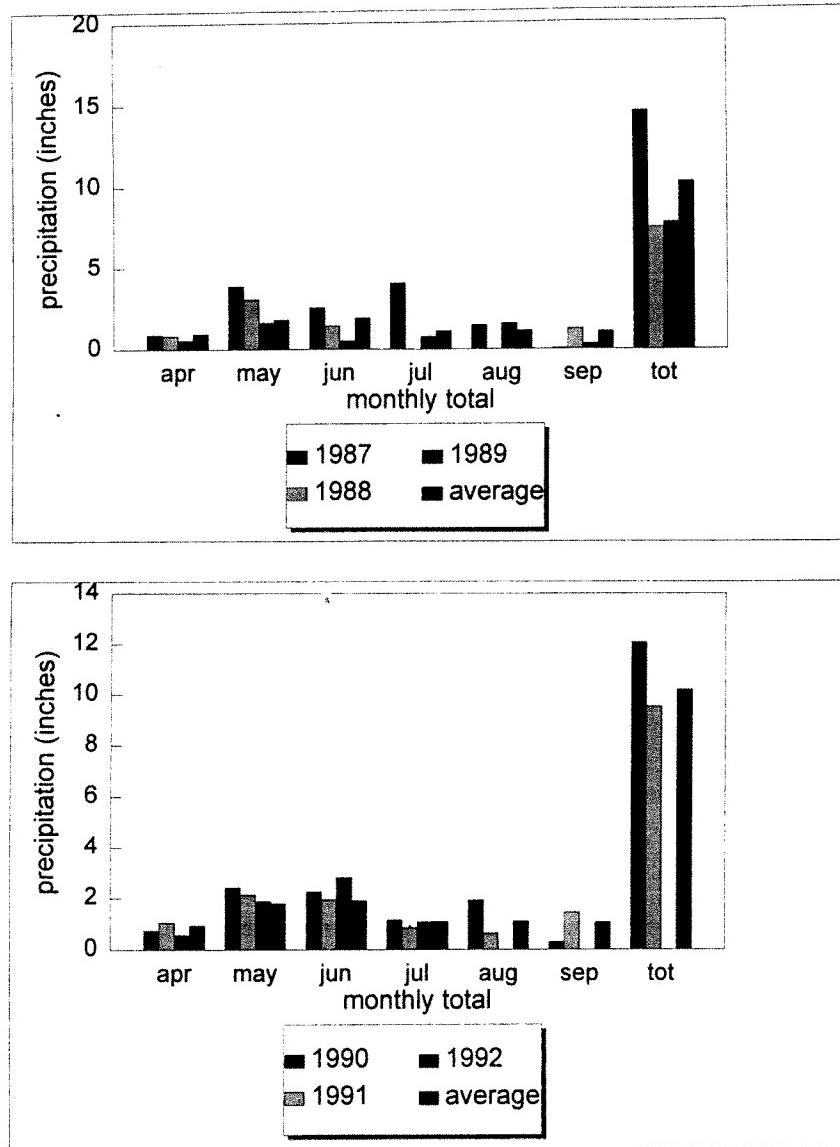
Comments:

OBSERVED BY LINDA PIETARINEN AND KEN MCBRIDE. SOME PLANTS GROWING IN  
ROADCUT OF LOGGING ROAD.

Information source: SENSITIVE PLANT COORDINATOR, BITTERROOT NATIONAL  
FOREST, 316 NORTH 3RD STREET, HAMILTON, MT 59840.

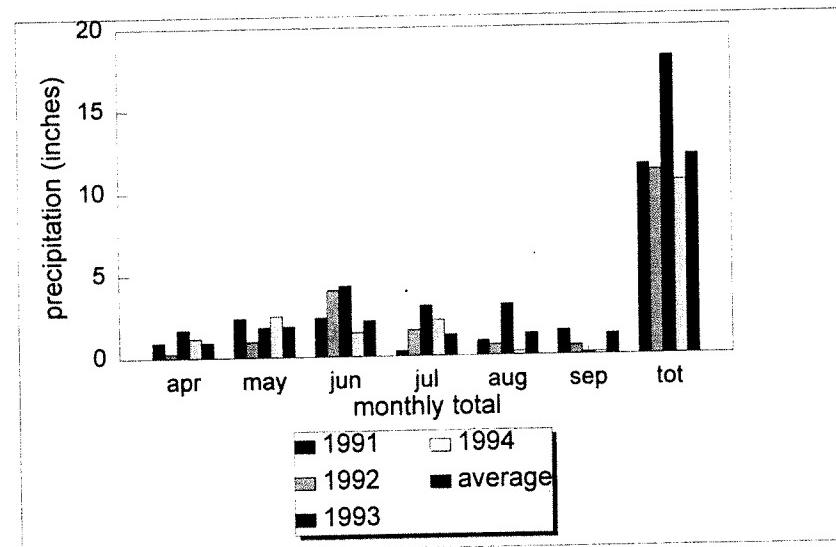
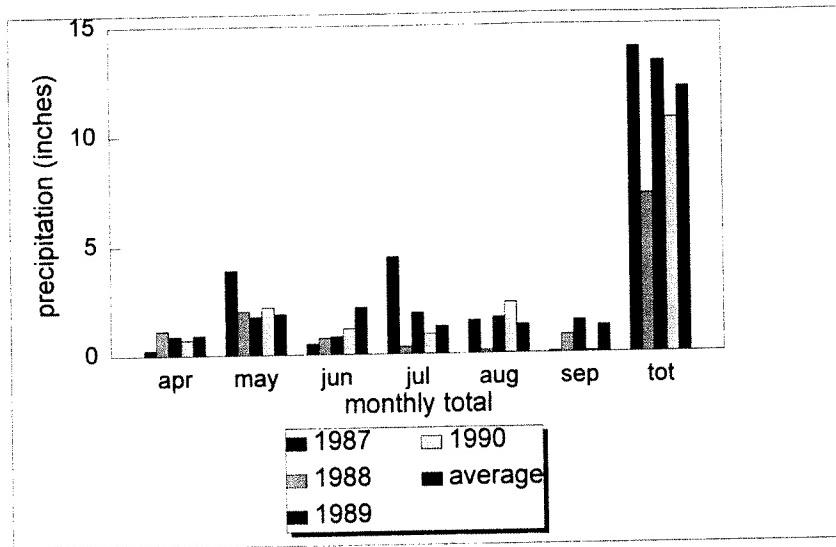
Specimens:

## Appendix C.



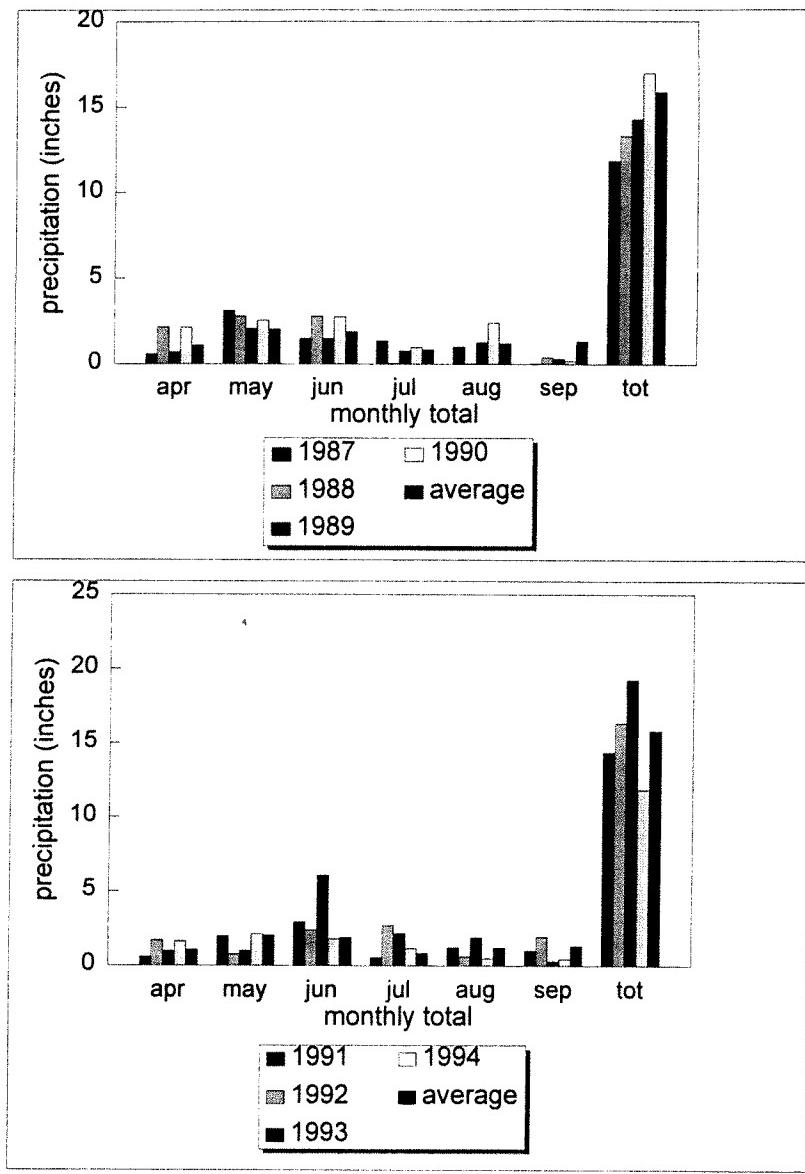
Precipitation, Dillon Montana, 1987-1992, compared to the 30+ year average. Note that values for August, September and the yearly total are missing for 1992.

## Appendix D.



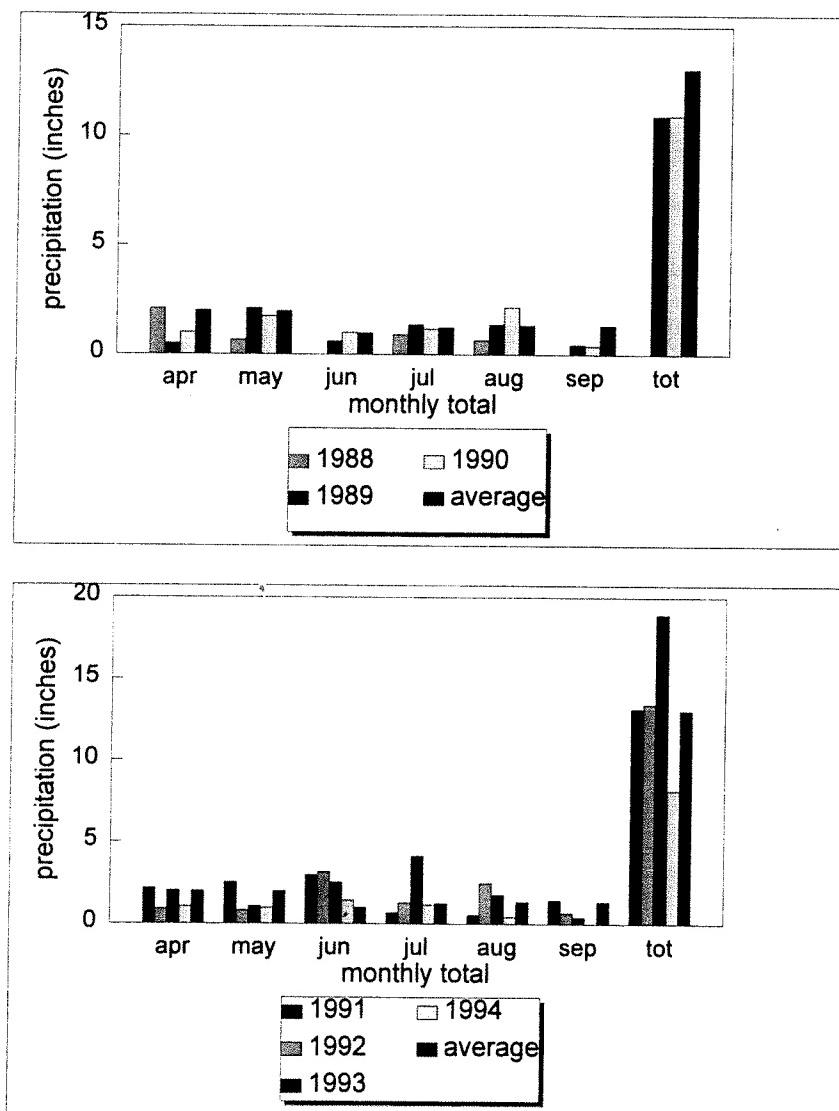
Precipitation, Butte Montana, 1987-1994, compared to 30+ year average.

## Appendix E.



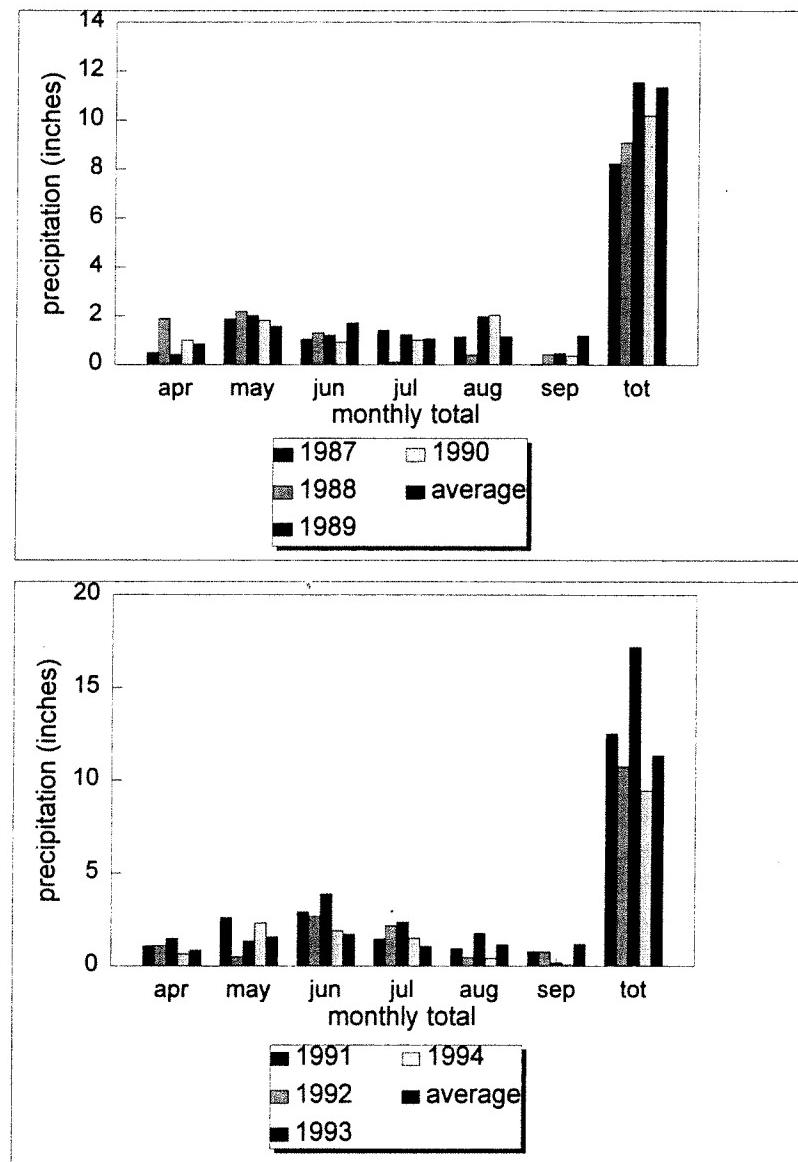
Precipitation for Darby Montana for 1987-1994, compared to the 30+ year average.

## Appendix F.



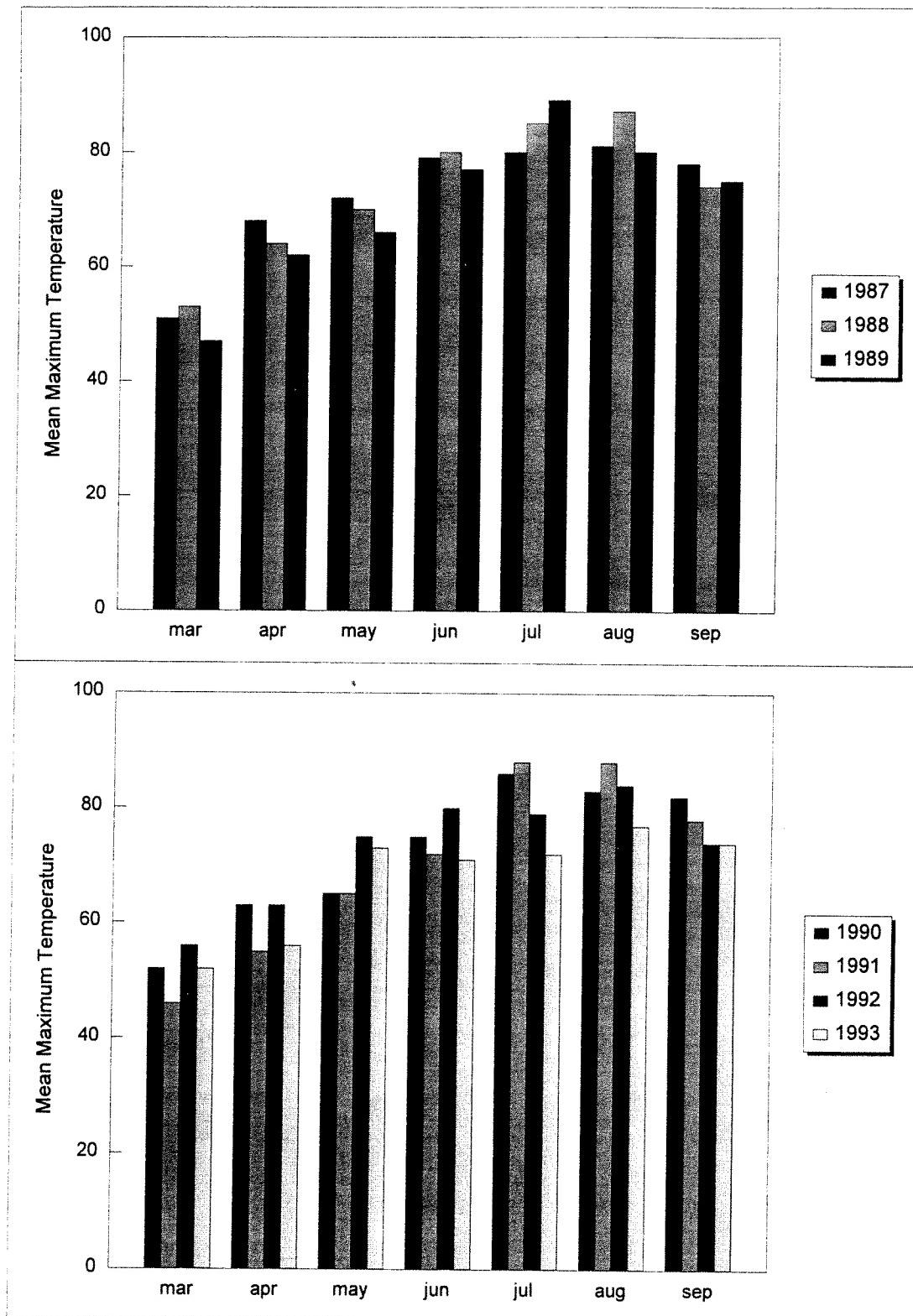
Precipitation, Jackson Montana, 1988-1994, compared to the 30+ year average. Note that the 1988 values for September and for the yearly total are missing.

## Appendix G.



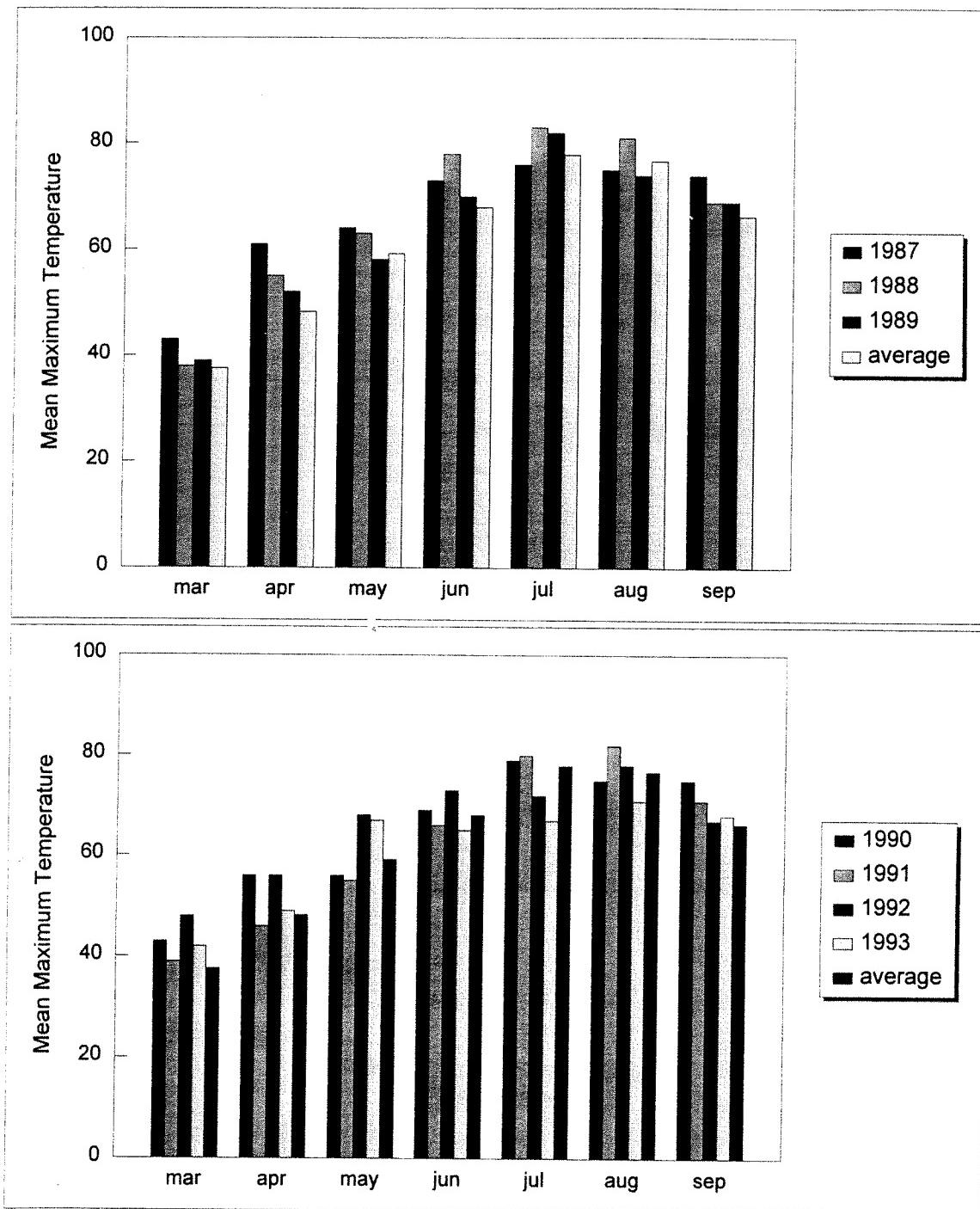
Precipitation, Wisdom Montana, for 1987 to 1994, compared to the 30+ year average.

## Appendix H.



Mean monthly maximum temperature for March through September, Darby Montana. Means are based on maximum daily temperature.

## Appendix I.



Mean monthly maximum temperature for March through September, Wisdom Montana. Means are based on maximum daily temperature. Average is the 30 year average for the station.